SERV. 11037

NEC

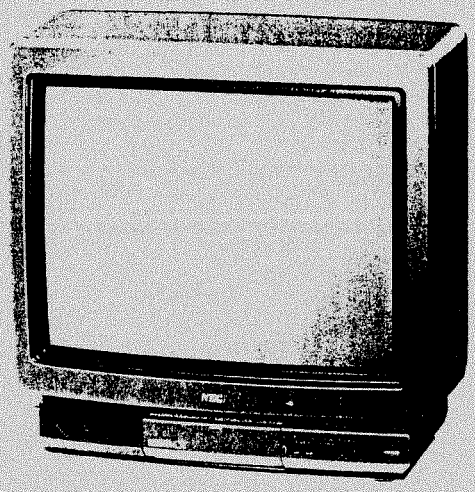
MODEL FS-1530SG(MB)
FS-1530SG(W)

COLOR TELEVISION

SERVICE MANUAL

PART NO. 399910530

Better Service
Better Reputation
Better Profit



SPECIFICATIONS

Power Requirements	AC 220V, 50 Hz
Power Consumption	69 W (Standby 3.0 W)
Color Receiving System	PAL B/G (SECAM DDR)
Receivable Channels	All European VHF, UHF & CATV Channels
Band I 47-68 MHz	CH 2-4
68-89 MHz	S1-S3 (Special channels)
104-118 MHz	M1-M2 (Special channels)
Band III 174-230 MHz	CH 5-12
119-169 MHz	M3-M10 (Special channels)
231-295 MHz	U11-U20 (Special channels)
Band IV-V 471-856 MHz	CH 21-69
Channel Selection	50-position memory, voltage synthesized tuning system
Intermediate Frequency	Picture IF Carrier 38.9 MHz Sound IF Carrier 33.4 MHz
Sound Output	2.2 W
Antenna Input Terminal	75Ω IEC type
Audio/Video Input Terminal	
Audio input level	500mVrms/30kΩ (RCA)
Video input level	1 Vp-p/75Ω (sync. nega.) (RCA)
Timer Function	24 hour clock timer, Programmable ON-/OFF-Timer
On Screen Display	Channel number, Sound level Tuning level, ON-/OFF-Timer
Picture tube	A36JAR40X(MW) 15" 90° deflection
Speaker	5×9 cm oval type
Dimensions	36.6(W)×35.6(H)×38.3(D) cm
Weight	12 kg
Remote Control Unit	RD-305E (FS-1530SG(MB)) RD-307E (FS-1530SG(W)) Requires two 1.5 V penlight batteries (Type UM-3, R6, AA size)

•Specifications subject to change without notice

NEC Corporation

TOKYO, JAPAN

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SAFETY PRECAUTIONS

During servicing, carefully observe the following.

1. OBSERVE ALL PRECAUTIONS

Items and locations that require special care during servicing, such as the cabinet, chassis, and parts, are labeled with individual safety instructions. Carefully comply with these instructions and all precautions in the instruction manual.

2. BE CAREFUL OF ELECTRIC SHOCK

The chassis carries an AC voltage. If you touch the chassis while it is still alive, you will get a severe shock. If you think the chassis is alive, use an isolating transformer or gloves, or pull out the plug before replacing any parts.

3. USE SPECIFIED PARTS

The parts have been chosen for minimum flammability and for specific levels of resistance value and withstand voltage. Replacement parts must match these original specifications. Parts whose specifications are particularly vital to safe use and maintenance of the set are marked ⚠ on the schematic diagram and parts list.
Substitution of these parts can be dangerous for you and the customer, so use only specified parts.

4. REMOUNT ALL PARTS AND RECONNECT ALL WIRES AS ORIGINALLY INSTALLED

For safety, insulating tape and tubes are used throughout, but some lift-off parts on the printed wiring board require special attention.
All wires are positioned away from high-temperature and high-voltage parts, and, if removed for servicing, they must be returned precisely to their original positions.

5. HANDLE THE CATHODE RAY TUBE CAREFULLY

The set has an anti-explosion-type cathode ray tube as a precaution against violent implosion.
However, when the tube is removed or the set is serviced from the back, any shock to the cone can be dangerous. Be especially careful when handling the tube.

6. PRECAUTIONS AGAINST X-RAYS

Design of the cathode ray tube and high voltage peripheral circuits assure adequate protection against X-rays.
Any change in these circuits and connections can be dangerous. Use specified parts only. Use of other than specified parts can result in higher than rated voltages and lead to dangerous X-ray emissions.

7. RUN A COMPLETE SAFETY CHECK AT THE COMPLETION OF SERVICING

Make sure all screws, parts and wires are back in place and secure. Also make sure no damage has occurred during or as a result of servicing.
Also make insulation checks between external metal parts and plug blades.

(Insulation check)
Pull the plug out of the outlet, remove the antenna, and turn on the power.
The resistance between each plug blade and external metal parts (Note 1) must be at least 4.0MΩ as measured with a 500V insulation resistance meter (Note 2).
If resistance is below 4.0MΩ, the set must be inspected and repaired.

(Note 1)
External metal parts.....Antenna terminal, earphone jack, sound recording terminal, etc.
(Note 2)
If a 500V insulation resistance meter is not available, use a tester.

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(Note 1)
External metal parts.....Antenna terminal, earphone jack, sound recording terminal, etc.
(Note 2)
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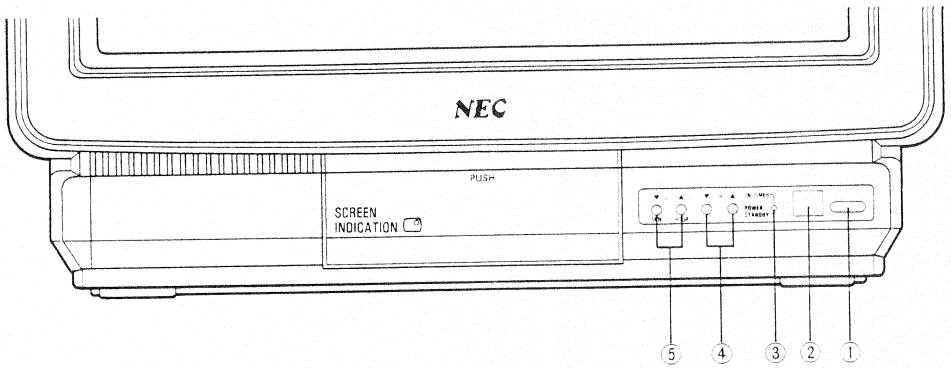
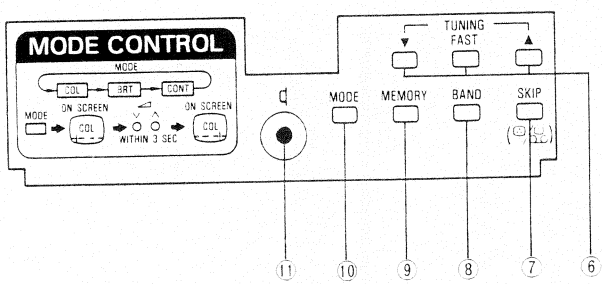
LOCATION OF CONTROLS

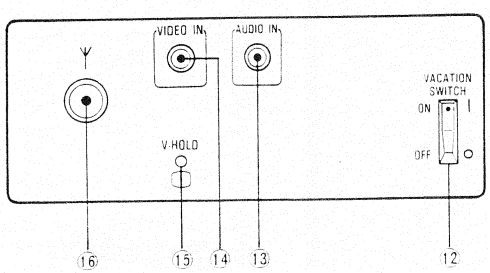
FRONT VIEW



CONTROL BOX



REAR VIEW



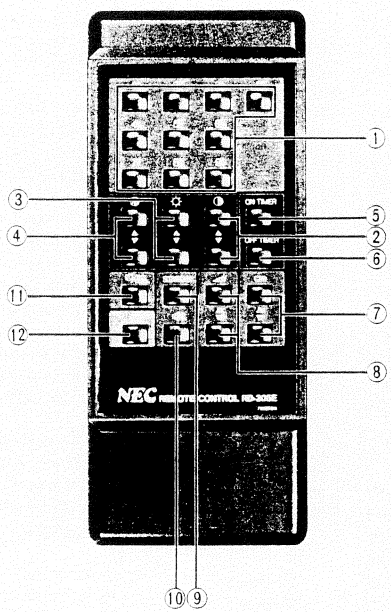
FRONT VIEW

1. POWER Button (⏻)
2. Infrared Sensor Window
3. ON-TIMER (red)/STANDBY (green) indicator
4. CHANNEL up/down Buttons (▼ CH ▲)
5. VOLUME up/down Buttons (▼ ◿ ▲)

CONTROL BOX

6. Tuning Control (TUNING ▼/FAST/▲)
7. SKIP//TV/VIDEO (SKIP / TV/VIDEO)
8. BAND Select
9. MEMORY
10. MODE
11. Earphones Jack

REMOTE CONTROL UNIT



REAR VIEW

12. VACATION SWITCH
13. AUDIO IN
14. VIDEO IN
15. Vertical Hold Control ( )
16. Antenna Terminal ( )

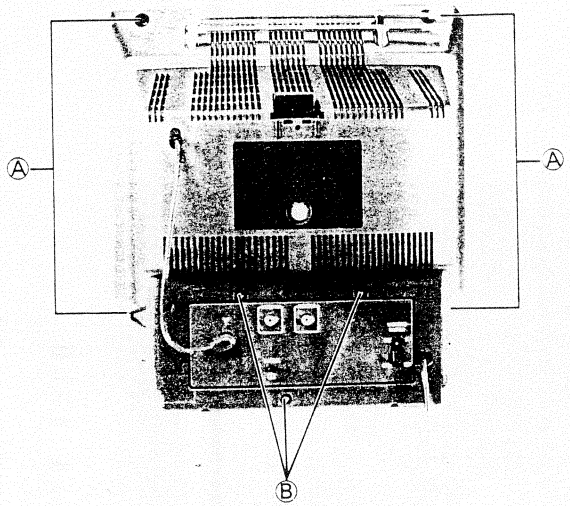
REMOTE CONTROL UNIT

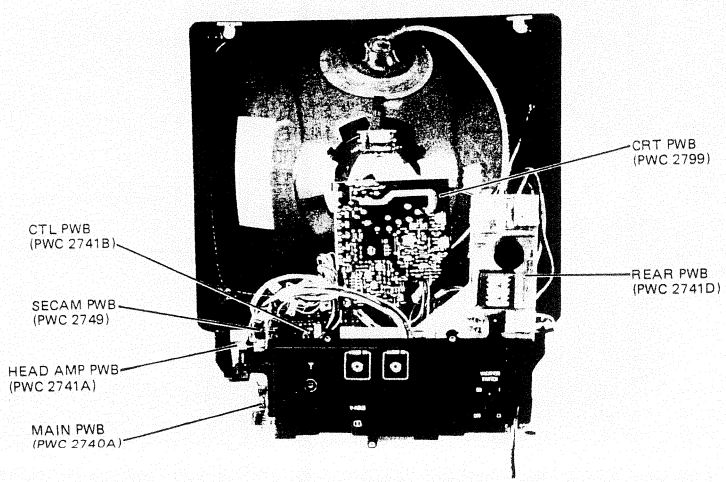
1. Channel Select (0—9)
2. CONTRAST (◑ ▲ ▼)
3. BRIGHTNESS (☼ ▲ ▼)
4. COLOR (◔ ▲ ▼)
5. ON-TIMER
6. OFF-TIMER
7. CHANNEL Up/Down (CH ▲ ▼)
8. VOLUME Up/Down (◿ ▲ ▼)
9. STATUS
10. MUTE (🔇)
11. TV/VIDEO (TV/VIDEO)
12. POWER (⏻)

MECHANICAL DISASSEMBLY

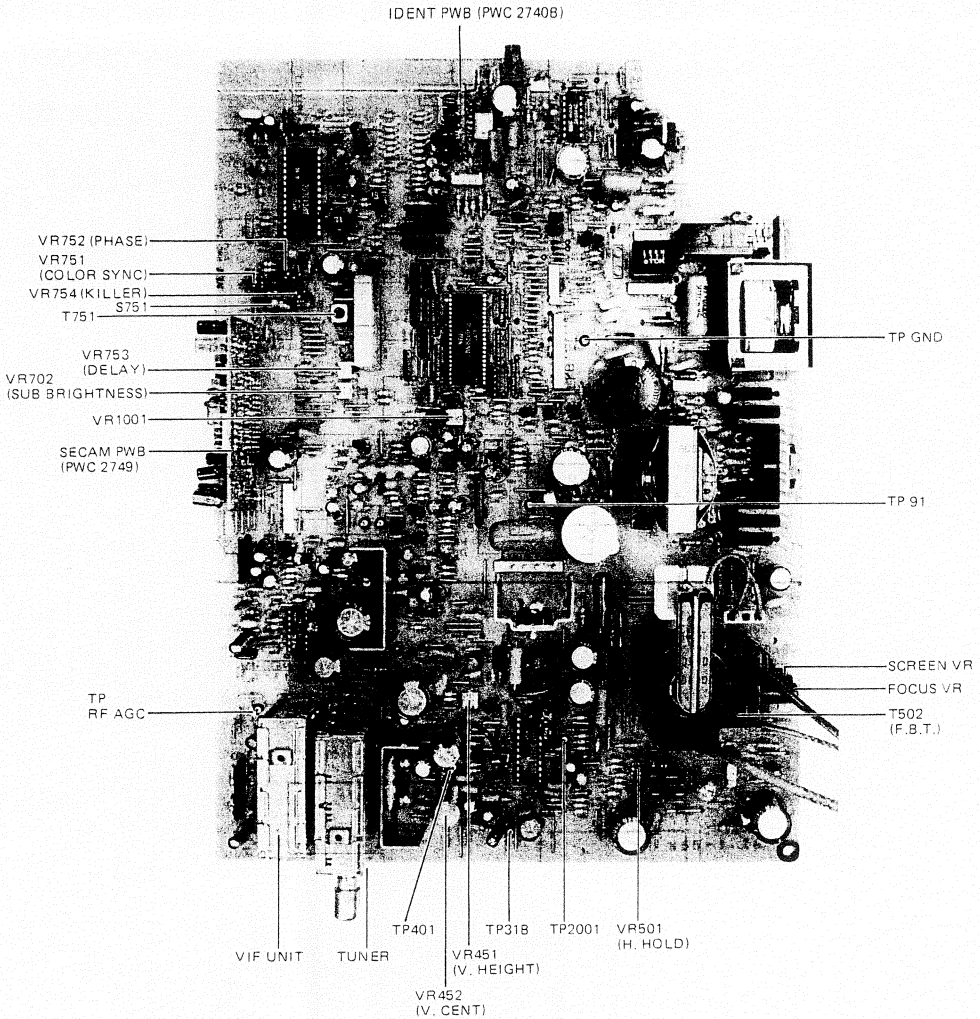
CABINET BACK REMOVAL

1. Remove 4 Backcover mounting screws Ⓐ.
2. Remove 3 Terminals Board mounting screws Ⓑ.
3. Gently remove the Backcover.

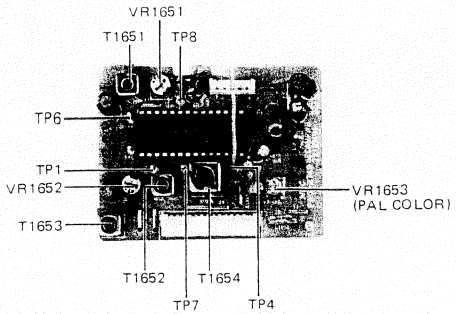




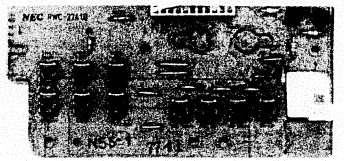
PARTS LOCATION DIAGRAMS



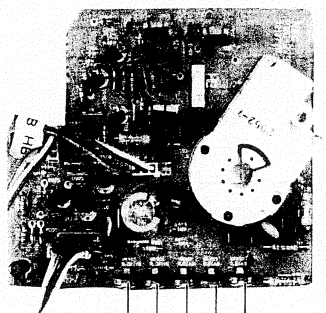
MAIN PWB (PWC 2740A)



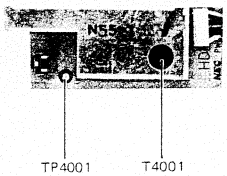
SECAM PWB (PWC 2749)



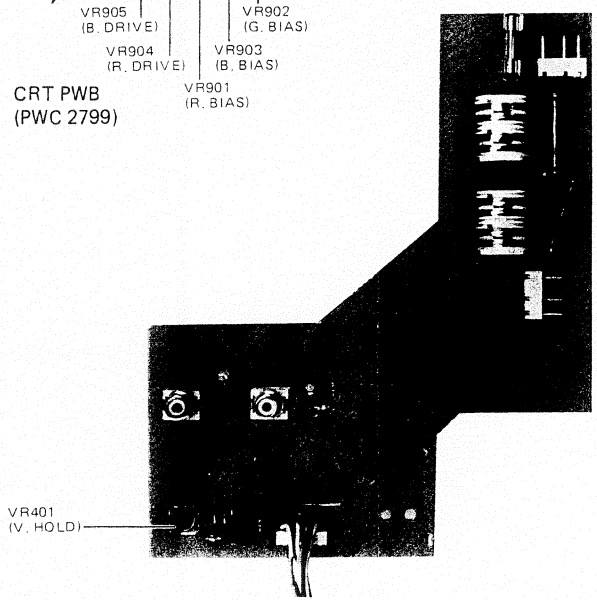
CTL PWB (PWC 2741B)



CRT PWB
(PWC 2799)

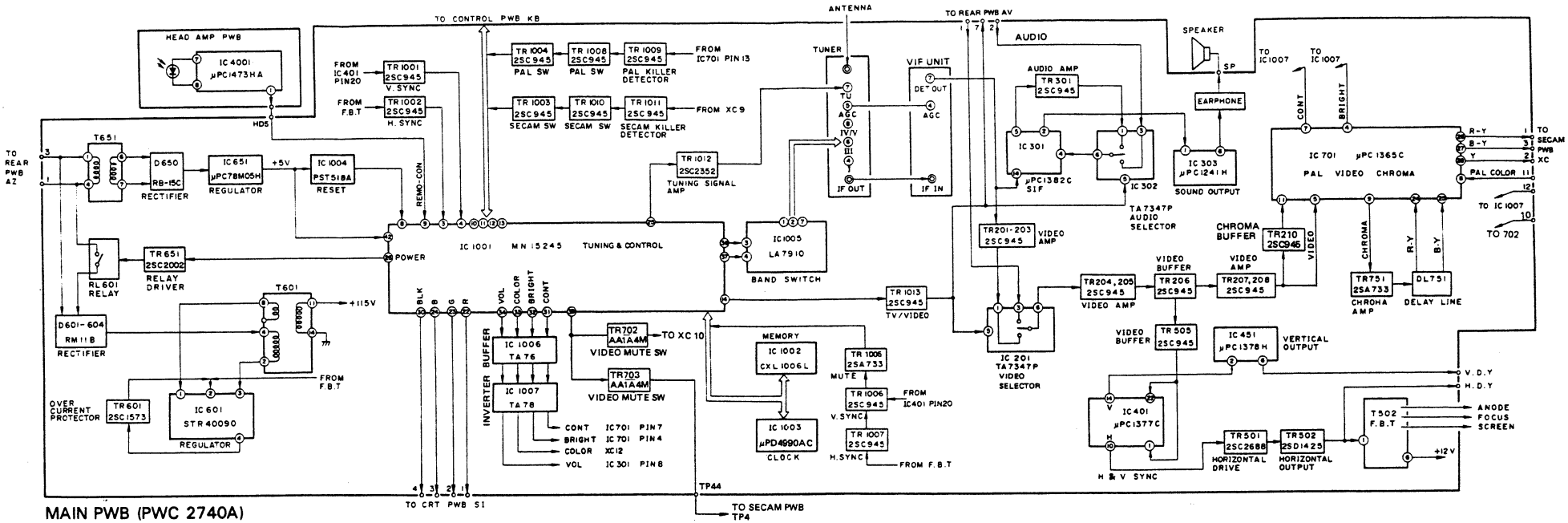


HEAD AMP PWB (PWC 2741A)

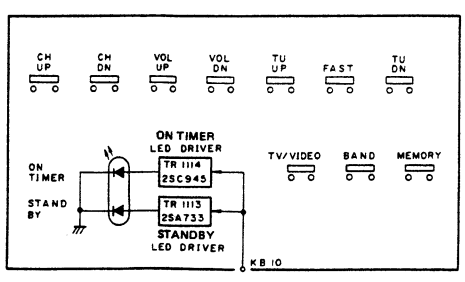


REAR PWB (PWC 2741D)

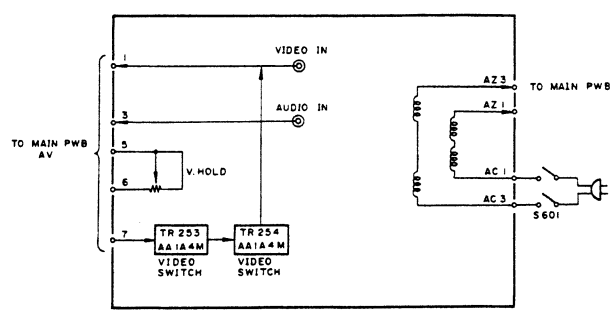
BLOCK DIAGRAMS



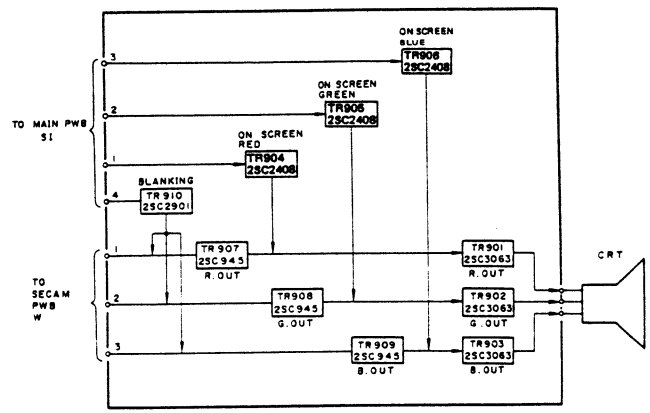
MAIN PWB (PWC 2740A)



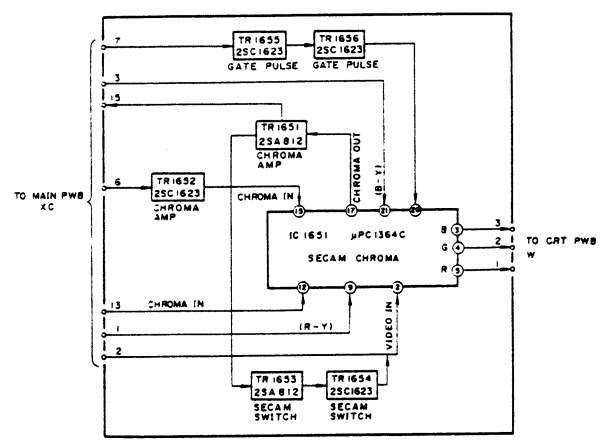
CTL PWB (PWC 2741B)



REAR PWB (PWC 2741D)

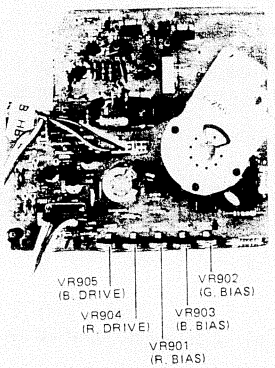


CRT PWB (PWC 2799)



SECAM PWB (PWC 2749)

ADJUSTMENT PROCEDURE



CRT PWB (PWC 2799)

Note: Complete patterns used in the following adjustment procedures are the Philips color pattern with the digital circle.

PICTURE

White Balance Adjustment

(1) Feed in a monoscope pattern signal (or equivalent signal) and set the CONTRAST and BRIGHTNESS Controls to the minimum position.
(2) Set VR901 (R.BIAS), VR902 (G.BIAS), VR903 (B.BIAS), VR904 (R.DRIVE), VR905 (B.DRIVE) to their mechanical center positions.
(3) Set the SCREEN VR to the minimum position, and connect a 27kΩ resistor between TP401 and ground. The raster will be replaced by a horizontal line.
(4) Adjust VR702 (SUB BRIGHTNESS) so that the voltage at the G-cathode of the CRT is 150VDC.
(5) Turn the SCREEN VR clockwise until the first colored horizontal line is barely visible on the screen.
(6) Turn the associated BIAS VR fully counterclockwise.
(7) Turn the SCREEN VR to obtain a barely visible horizontal line of another color on the screen. Turn the associated BIAS VR fully counterclockwise.
(8) Again adjust the SCREEN VR to obtain a barely visible horizontal line of the remaining color. But leave the associated BIAS VR at its mechanical center.
(9) Turn the other two BIAS VRs clockwise to adjust white balance of CRT cut-off.
(10) Remove the 27kΩ resistor from TP401, set the BRIGHTNESS and CONTRAST Controls to the maximum position and adjust white balance with the R. and B. DRIVE VRs.
(11) Adjusting the BRIGHTNESS and CONTRAST Controls, check the tracking of white balance. If necessary, repeat steps (1) to (10).

Sub Brightness Control Adjustment

(1) Feed in the complete pattern signal and set the receiver to normal mode by pressing the Memory button. (i.e., not in preset mode.)
(2) Set the BRIGHTNESS Control and CONTRAST Control to the maximum position and the COLOR control to the minimum position.
(3) Adjust VR702 (Sub Brightness) so that the limiter current is 0.65mA

Focus Control Adjustment

(1) Feed in the complete pattern signal (or equivalent signal), and set tuning to obtain an optimum picture.
(2) Set the CONTRAST Controls to the maximum and adjust BRIGHTNESS Controls to the position shown below.

Fig. 1

(3) Adjust the FOCUS VR to obtain an optimum picture at the center of the screen.

RF AGC Adjustment

(1) Feed in a 60dBμ PAL standard color bar signal (peak value, 75Ω load), adjust tuning to obtain an optimum picture and set the receiver to normal mode by pressing the Memory button.
(2) Connect a DC voltmeter to TP RF AGC, and adjust VR201 on the VIF unit (see Fig. 2) to obtain a 7.0 VDC reading at TP RF AGC.
(Use a tester or a digital voltmeter with an internal impedance more than 20kΩ)
(3) Increase the input signal level to 63dBμ and make sure that the AGC voltage drops.

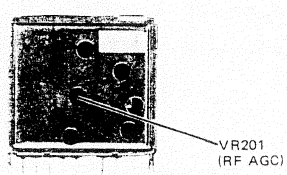
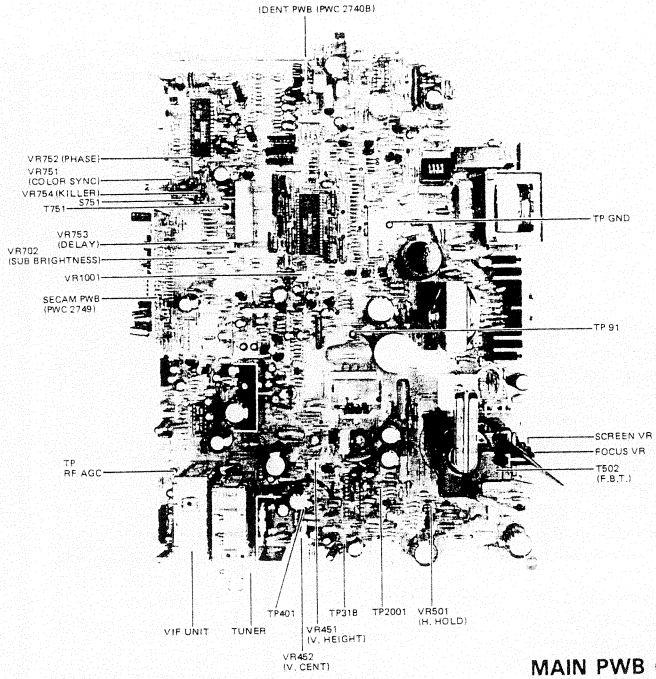


Fig. 2
VIF UNIT



MAIN PWB (PWC 2740A)

HORIZONTAL AND VERTICAL

Vertical Sync Adjustment

Feed in the complete pattern signal (or equivalent signal) and adjust VR401 (V-HOLD) to the center of the vertical synchronizing drawing range.

Horizontal Sync Adjustment

(1) Feed in the complete pattern signal.
(2) Connect a jumper lead between TP MUTE and Ground.
(3) Ground TP31B through 22μF/16V capacitor.
(4) Adjust VR501 (H-HOLD) to obtain a horizontal synchronization.

Vertical Position Adjustment

Feed in the complete pattern signal (or equivalent signal) and adjust VR452 (V-CENT) so that the vertical center is positioned at the mechanical center of the CRT.

Vertical Amplitude Adjustment

(1) Feed in the complete pattern signal (or equivalent signal) and set the CONTRAST and BRIGHTNESS Controls to the maximum position.
(2) Adjust VR451 (V-HEIGHT) so that border castellations (Black and White Check patterns) of both top and bottom move outwards.
Set just at the point where the border disappears from view i.e. aligned with the screen side.

Be sure that a proper circle pattern is generated at the center of the screen.

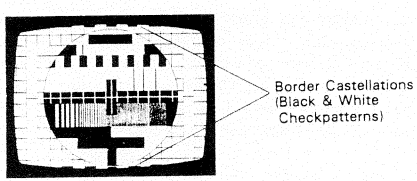


Fig. 3 Before Adjustment

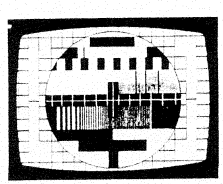


Fig. 4 After Adjustment

PAL CHROMA

1H Delay Line Adjustment

(1) Feed in a PAL "DEM" signal (Philips Model PM5509 or PM5519).
(2) Set the COLOR Control to the maximum position.
(3) Connect an oscilloscope (0.5V/cm range) to XC1 (R-Y demodulator output) on the MAIN PWB via the pad shown in Fig. 5. Set time base to the horizontal sync. frequency.

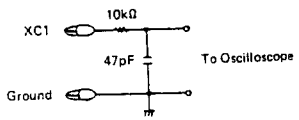


Fig. 5 Chroma Pad

(4) Turn T751 so as to align the first bars of each line to the same height.

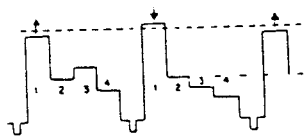


Fig. 6 T751 Adjustment

(5) Adjust VR753(DELAY) to align the third bars to the same height.

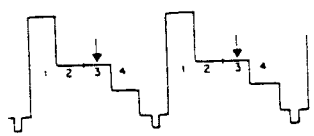


Fig. 7 VR753 (DELAY) Adjustment

(6) Adjust VR752(PHASE) to align the fourth bars to the same height.

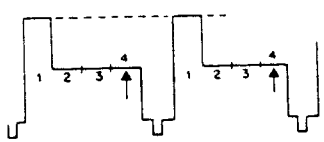


Fig. 8 Waveform after Adjustment

(7) Change time base from a horizontal sync. frequency to a vertical sync. frequency. Alter the range of the oscilloscope from 0.5V/cm to 0.1V/cm as well.

(8) Connect the same chroma pad as shown in Fig. 5 to XC1 and XC3 respectively. Two amplitudes of R-Y and B-Y signals as shown in Fig. 9 are observed on the oscilloscope.

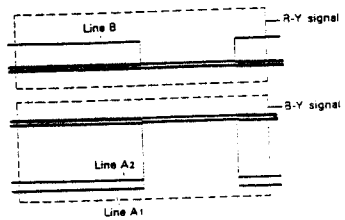


Fig. 9 Line A1 and line A2 before adjustment

(9) Turn T751 so that line A1 and line A2 coincide as shown in Fig. 10. Be careful not to turn T751 too far towards the end so that line B splits into two lines.

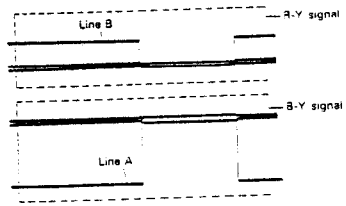


Fig. 10 Line A after adjustment

(10) Reduce the BRIGHTNESS level to confirm that there is no hangover blind.
(11) If necessary, repeat steps (4) to (10).

Color Sync Adjustment

(1) Feed in a PAL standard color bar signal.
(2) Adjust the tuning buttons to obtain an optimum picture.
(3) Set the receiver to normal mode by pressing the Memory button (i.e., not in preset mode). Set S751 to ADJUST position and adjust VR751 (COLOR SYNC) until the color bar pattern is synchronized.
(4) Reset S751 to the NORMAL position.

Color Killer Adjustment

(1) Feed in a Black & White standard signal (or equivalent signal) and set tuning toward a higher frequency until a distorted picture appears on the screen.
(2) Adjust VR754 (KILLER) until color noise disappears.
(3) Set the receiver to normal mode by pressing the Memory button.
Feed in a 35dBμ color bar signal and confirm that colors appear properly.

SECAM CHROMA (on the SECAM PWB)

Bell Filter (T1653) Adjustment

(1) Feed in a SECAM standard color bar signal.
(2) Connect an oscilloscope to TP1 and adjust T1653 so that the level of each waveform is equal as shown below.
Note: If a chroma signal is not seen, the killer circuit is functioning. In this case, turn T1654 or apply 12V to TP4 through a 10kΩ resistor to turn the killer off.

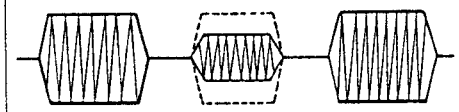


Fig. 11

Delay Line Level Adjustment

(1) Feed in a SECAM standard color bar signal.
(2) Connect the oscilloscope to TP6 and adjust VR1652 to obtain 100mVP-P reading.

Demodulation Adjustment of R-Y and B-Y

(1) Feed in a SECAM standard color bar signal (or equivalent signal).
(2) Connect an oscilloscope CH1 to TP7 and CH2 to TP8. Set the oscilloscope to 0.2V/div, 2msec/div and select CHOP mode.
(3) The waveforms as shown in Fig. 12 are obtained.

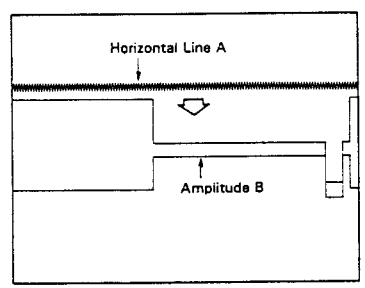


Fig. 12 Waveform before Adjustment

(4) Adjust T1651 and T1652 alternately so that the horizontal line A is aligned to the center of amplitude B as shown in Fig. 13.

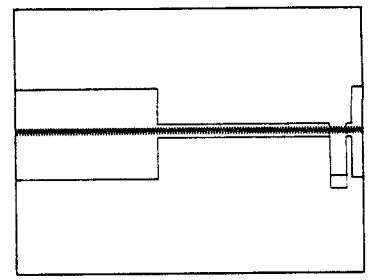


Fig. 13 Waveform after Adjustment

PAL COLOR (VR1653), SECAM R-Y (VR1651) Adjustment

(1) Feed in a SECAM standard color bar signal, set the COLOR Control to the maximum position and read the level of oscilloscope at TP7.
(2) Feed in a PAL standard color bar signal and set the CONTRAST Control to the maximum position and the BRIGHTNESS Control to the position shown below.

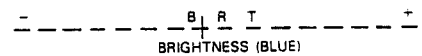


Fig. 14

(3) Adjust VR1653 so that the oscilloscope level at TP7 is as SECAM signal reception level.
(4) Connect the oscilloscope to TP8 and read this level.
(5) Feed in a SECAM standard color bar signal and adjust VR1651 so that the oscilloscope level at TP8 is the same as PAL signal reception level.

Killer Adjustment

(1) Feed in a SECAM standard color bar signal (about 80dBμ) and set the receiver to normal mode by pressing the Memory button. (i.e., not in preset mode)
(2) Connect a high input impedance digital voltmeter to TP4 and adjust T1654 to obtain maximum (about 8.5VDC) voltage.
(3) Feed in a PAL standard signal and confirm that the killer voltage drops to approx. 7.2V.
(4) Feed in a B/W standard signal and confirm that the killer voltage drops to approx. 6.5V.

HIGH VOLTAGE AND HIGH VOLTAGE PROTECTOR CHECK

High Voltage Check

(1) Feed in the complete pattern signal, set the CONTRAST and BRIGHTNESS Controls to the maximum position and the volume to the minimum position.
(2) Connect a DC voltmeter between TP91 and ground.
(3) Confirm that the voltage is within 115.0 ± 1.5VDC.
(4) Confirm that the high voltage is within 23.6 ± 1.5KV.

Checking High Voltage Protector

(1) Apply 7.0VDC to TP2001 with an external power supply and confirm that the High Voltage Protector operates normally.
(2) Turn off the VACATION Switch and remove the external power supply from TP2001.
(3) Turn on the VACATION Switch after ten seconds and confirm that the set operates.

ON SCREEN

Display Position Adjustment

(1) Feed in a complete pattern signal (or equivalent signal).
(2) Push the STATUS button on the remote control unit and confirm channel number and time screen display.
(3) Adjust VR1001 so that the on-screen display is in the proper position.

REMOTE CONTROL ADJUSTMENT

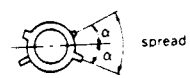
(1) Connect an oscilloscope to TP4001 on the HEAD AMP PWB.
(2) Change R1001 on the remote control unit from 1Ω to 1kΩ so that the reach of the remote control is reduced to 60 - 70 cm and aim the optic axis of remote control unit at the infrared sensor window. Set a distance to 20 cm between the remote control unit and sensor window.
(3) Press the CH (Up) button on the remote control unit.
(4) Turn the core of T4001 so that the amplitude of waveform on the oscilloscope is maximized.

PURITY AND CONVERGENCE ADJUSTMENT

Allow 10 minutes minimum warm-up time.

Purity Adjustment

(1) Degauss the CRT with degausser.
(2) Feed in a monoscope pattern signal.
(3) Check whether the static magnets are fixed in the correct position as shown in Fig. 15 and whether (A) purity magnet, (B) 4-pole magnet and (C) 6-pole magnet fingers are at the positions indicated in Fig. 16.
Note: When the 4-pole and 6-pole magnet fingers are lined up correctly, the magnetic field is "zero" anc R.G.B. static convergence should be close. If off, perform rough convergence adjustment before proceeding to the later adjustment.
(4) Set the G. BIAS VR on the CRT PWB to the minimum position to obtain magenta color (R & B).
(5) Loosen the deflection yoke set screw and pull the yoke backward.
(6) Spread out the two fingers of the purity magnet for the same angle from their original horizontal positions until a magenta vertical stripe appears in the centre of the screen.



(7) While watching the screen, move the deflection yoke forward until optimum purity position is obtained, then tighten deflection yoke setscrew lightly. If the deflection yoke tends to bow down, insert a spare wedge from top of the yoke flare mouth.
(8) Turn the G. BIAS VR on the CRT PWB to the center position and check for an even white screen. If an even white color is not obtained, repeat steps (4) to (8).
(9) Connect a 27kΩ resistor between TP401 and ground to obtain a horizontal line on the screen. If the horizontal line is tilted, rotate the deflection yoke until the horizontal line is positioned within ±5 mm from the geometrical centre of the screen. If the horizontal line is not positioned as above, rotate the purity magnet (while maintaining the preset angle between the fingers) until the horizontal line is positioned within the tolerance.
Note: During this adjustment, the VR452 (V.CENT) must be set to the centre position.
(10) Remove the 27kΩ resistor and confirm purity of entire screen area.
(11) If necessary, repeat steps (4) to (10).
(12) Tighten the deflection yoke setscrew at 14 kg-cm torque.
(13) After completing the purity adjustment, adjust CRT focus to obtain an optimum picture. Adjust focus on the monoscope pattern with maximum contrast and brightness to obtain optimum focus at third and fourth focus contrast chart zones. (Refer to Fig. 17.)

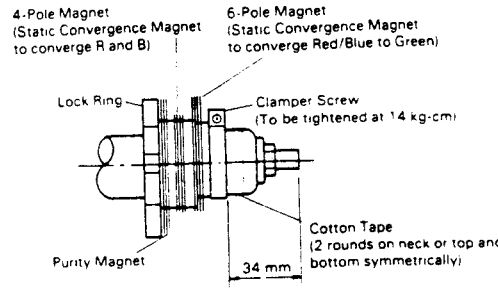


Fig. 15 Static Magnets

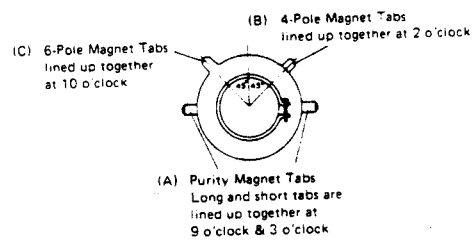

(B) 4-Pole Magnet Tabs
lined up together at 2 o'clock
(C) 6-Pole Magnet Tabs
lined up together
at 10 o'clock
(A) Purity Magnet Tabs
Long and short tabs are
lined up together at
9 o'clock & 3 o'clock

Fig. 16 Static Magnet Positions (Viewed from Rear of CRT)

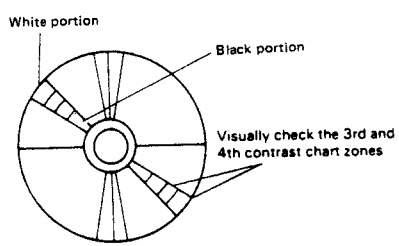


Fig. 17 Focus Adjustment

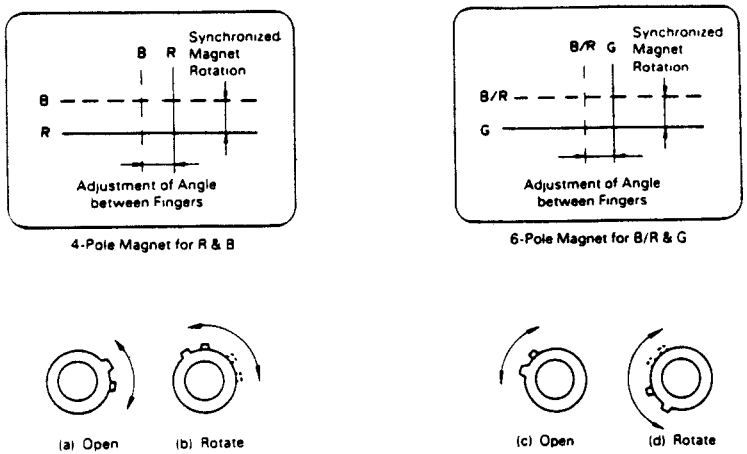


Fig. 18 Static Convergence Adjustment

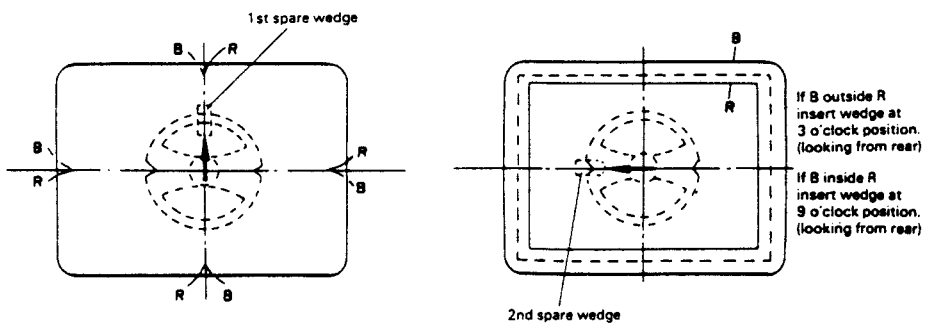

1st spare wedge
B
R
If B outside R insert wedge at 3 o'clock position. (looking from rear)
If B inside R insert wedge at 9 o'clock position. (looking from rear)
2nd spare wedge

Fig. 19 Dynamic Convergence Adjustment (Front view)

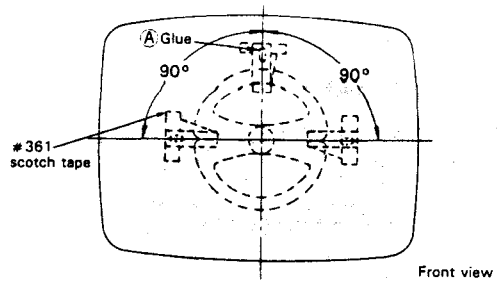


Fig. 20 Mounting Wedges

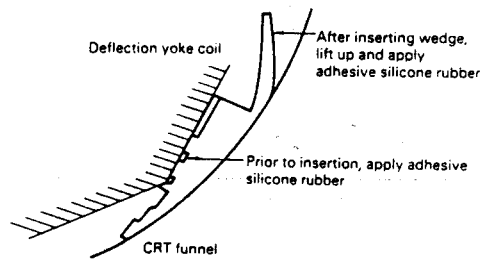

Deflection yoke coil
After inserting wedge, lift up and apply adhesive silicone rubber
Prior to insertion, apply adhesive silicone rubber
CRT funnel

Fig. 21 Deflection Yoke Fixing Method

Static Convergence Adjustment

(1) Feed in a crosshatch pattern signal and adjust the CONTRAST and BRIGHTNESS controls to minimize the black portion of the pattern.
(2) Turn the G. BIAS VR on the CRT PWB to the minimum position to obtain only magenta color (R & B) on the screen.
(3) Spread out the two fingers of the 4-pole magnets until the red and blue vertical stripes converge at the centre in the screen. (Refer to Fig. 18(a).)
(4) Next, with the same fingers spread, rotate the two fingers of the 4-pole magnets together until the red and blue horizontal stripes converge at the centre in the screen. (Refer to Fig. 18(b).)
If this operation causes the converging vertical stripes to get out of alignment, change the angle of fingers to obtain fine adjustment.
(5) Turn the G. BIAS VR on the CRT PWB to the center position to obtain red, green and blue on the screen.
(6) Spread out the two fingers of the 6-pole magnets until the red/blue and green vertical stripes converge at the centre in the screen. (Refer to Fig. 18(c).)
(7) Next, with the same fingers spread, rotate the two fingers of the 6-pole magnets together until the red/blue and green horizontal stripes converge at the centre in the screen. (Refer to Fig. 18(d).)
If this operation causes the converging vertical stripes to get out of alignment, change the angle of fingers to obtain fine adjustment.
(8) After completion of the above adjustments, red/blue and green should converge at the centre in the screen. If not, repeat steps (2) through (7).

Dynamic Convergence Adjustment

Note: Wedges should be fixed at 90° intervals.

(1) Insert the first spare wedge directly on the top of the deflection yoke flare to minimize misconvergences of red and blue vertical stripes at the top and bottom centre, and also red and blue horizontal stripes at the right and left centre of the screen. (Refer to Fig. 19.)
(2) If the blue at the outer extremities of the screen is now outside the red as shown in Fig. 19, insert the second spare wedge at the 3 o'clock position (viewed from the rear) and adjust the angle of the yoke for best convergence.
(3) If the blue at the outer extremities of the screen is inside the red, insert the second spare wedge at the 9 o'clock position and adjust the angle of the yoke for best convergence.
(4) Insert the two main wedges while looking at the screen. Remove the first spare wedge and insert the first main wedge directly on the top of the deflection yoke. Remove the second spare wedge, on the same side insert the second main wedge in a position close to where the second spare wedge was at an angle shown in Fig. 20. Be careful not to force the wedge as this will cause misconvergence.
(5) Confirm convergence of entire screen area.

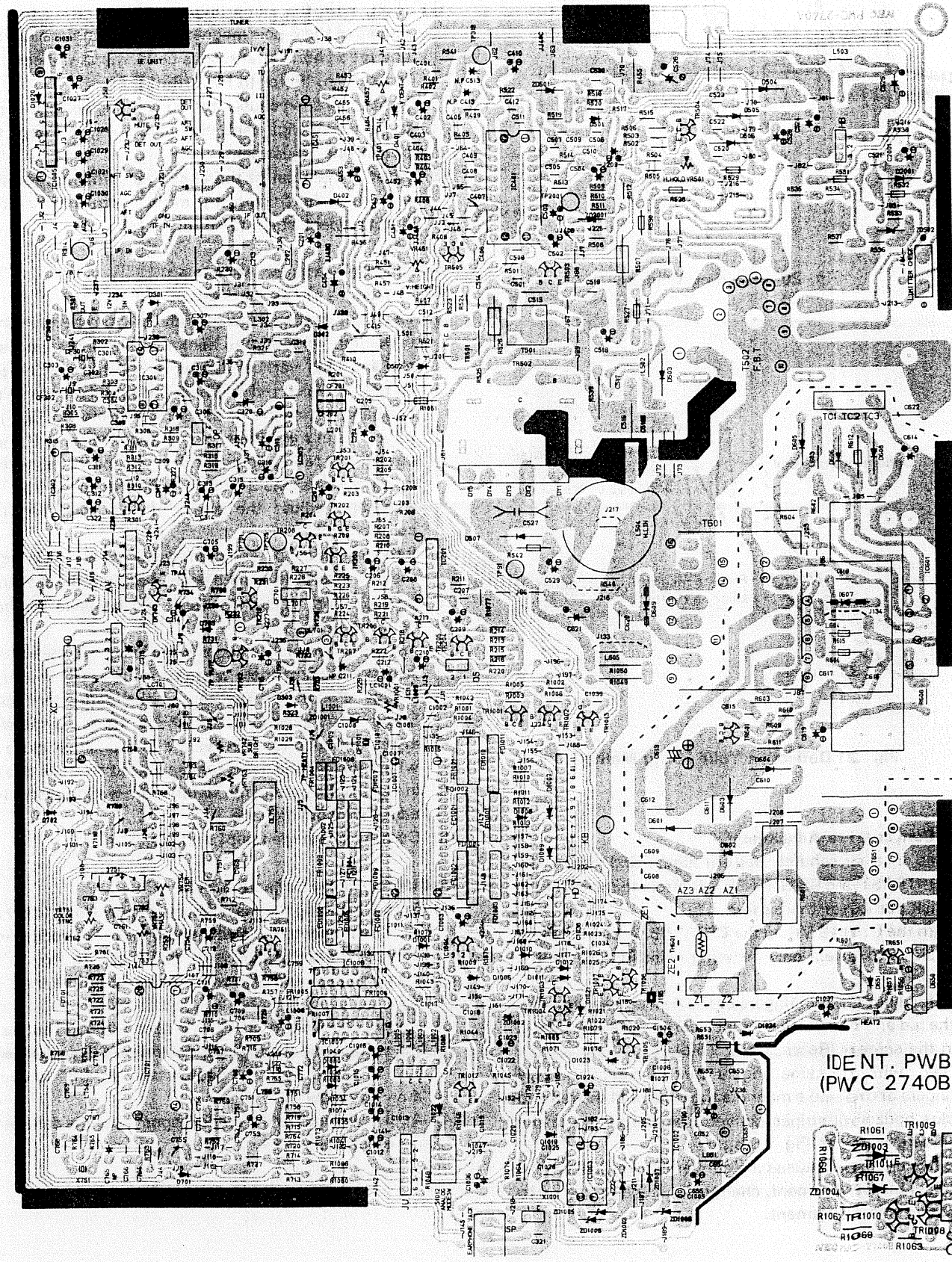
Method of Fixing Deflection Yoke

(1) Before inserting the main wedges, apply No. 3145 RTV silicone rubber to the place where the main wedges will contact the deflection yoke coil. (Refer to Fig. 21.)
(2) Insertion pressure of wedges should be more than 10 kg.
(3) Apply adhesive (No. 3145 RTV silicone rubber) between the wedge and the CRT funnel (refer to Fig. 20 Ⓐ and Fig. 21.), and then use Scotch tape No. 361 to cover any open spaces.
(4) Apply paint lock to the static magnets and the deflection yoke setscrew.

PRINTED WIRING BOARDS

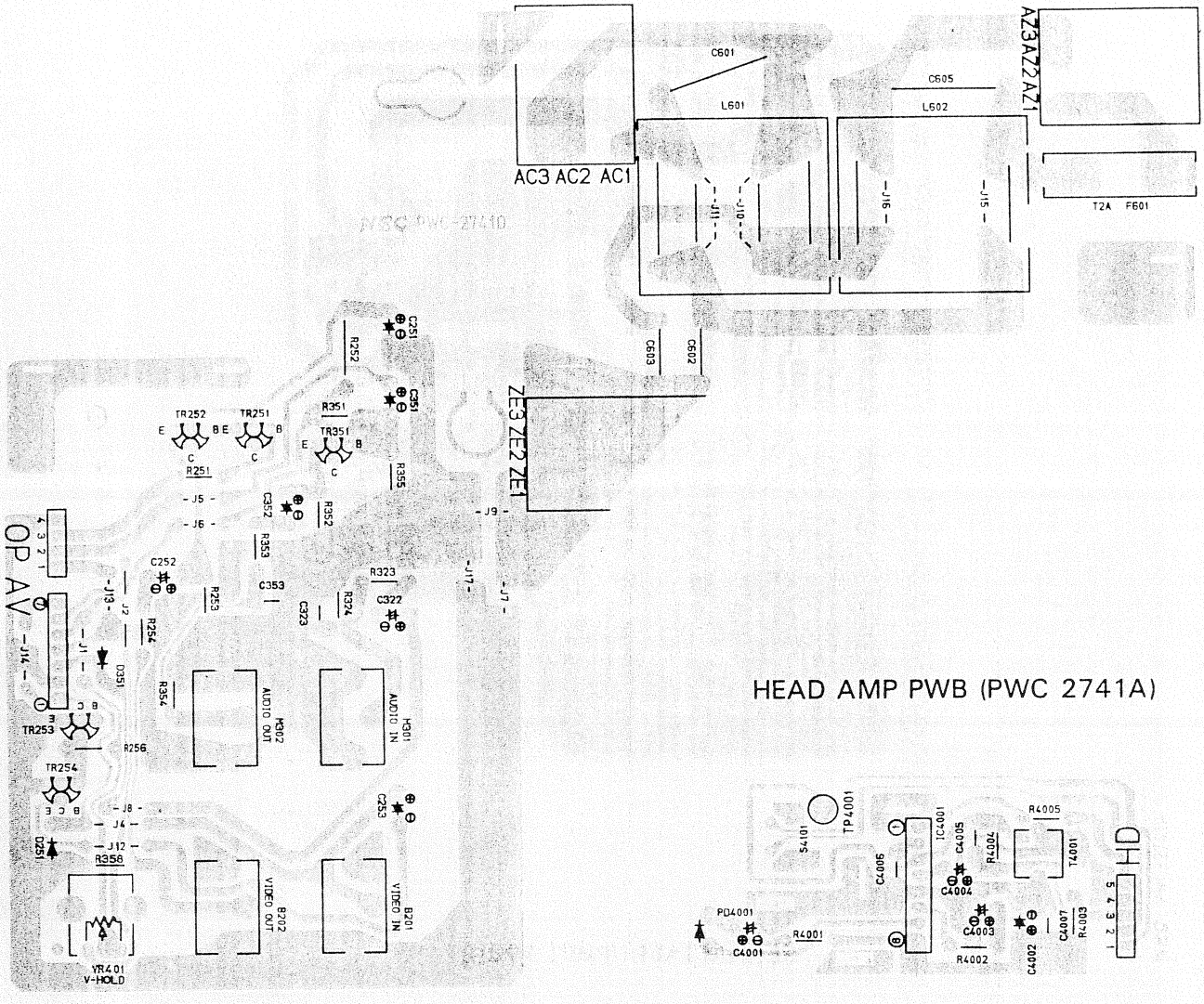
All boards show the solder side.

MAIN PWB (PWC 2740A)



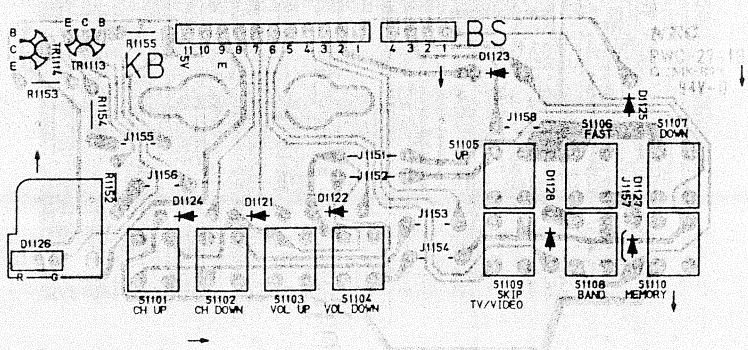
IDENT. PWB (PWC 2740B)

REAR PWB (PWC 2741D)

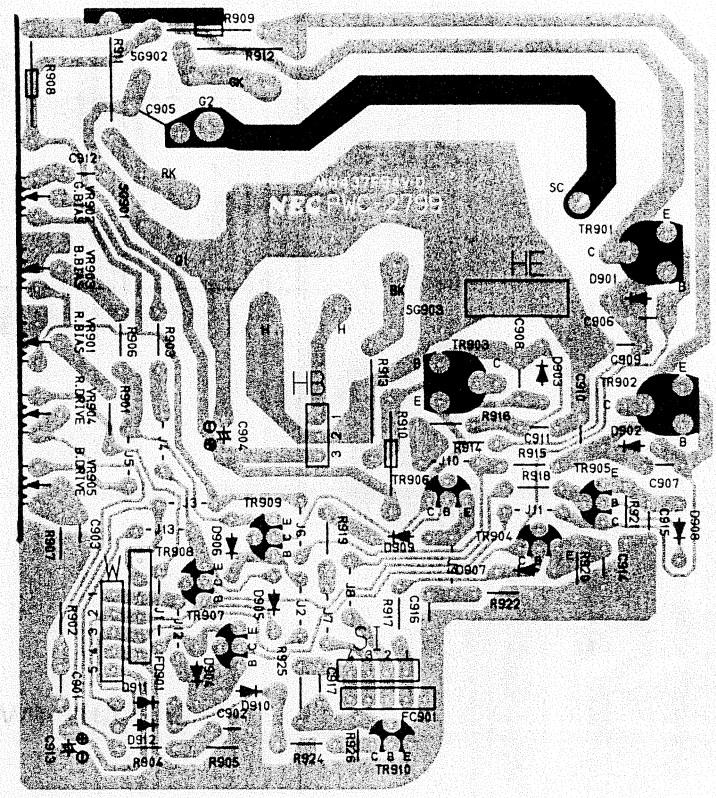


HEAD AMP PWB (PWC 2741A)

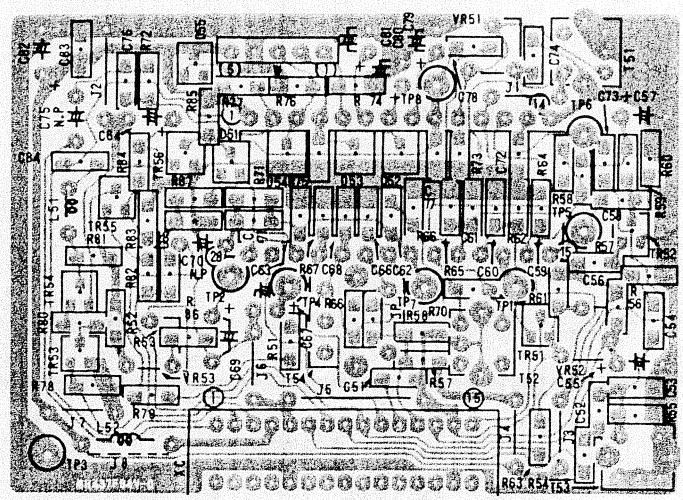
CTL PWB (PWC 2741B)



CRT PWB (PWC 2799)



SECAM PWB (PWC 2749)



REPLACEMENT PARTS LIST

Notes:
1. Parts orders must contain model name, parts number and description.
2. When you place an order for spare parts, please refer to the respective service manual and mention the right parts number on your P.O. Sheets.
3. Standard resistors, capacitors and coils which are normally available from local electronics suppliers are not stocked in our warehouse.
4. The quantity of spare parts mentioned in this list is for one set.
5. The components identified by a ⚠ mark or with the symbol Nos. shaded are critical for safety. Replace only with parts number specified.
6. Appearance parts are indicated by a number within a circle, ie ③ . Refer to page 30 for identification.
7. The parts number marked with a Ⓒ indicate the chip components which are not stocked in our warehouse.

All components are common for both FS-1530SG(MB) and FS-1530SG(W) except for the parts listed in the comparison chart below.

FS-1530SG(MB)

SYMBOL	PARTS NO	DESCRIPTION	QTY
	24DS6194	CABINET FRONT	1
	24DS6202	CABINET BACK	1
	24F09343	TERMINAL BOARD	1
	24MS5992	CARTON BOX	1
	79607811	REM-T HAND UNIT RD-305E	1

FS-1530SG(W)

SYMBOL	PARTS NO	DESCRIPTION	QTY
	24DS7911	CABINET FRONT	1
	24DS7921	CABINET BACK	1
	24F11541	TERMINAL BOARD	1
	24MS8271	CARTON BOX	1
	79608111	REM-T HAND UNIT RD-307E	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** CRT & TUNER ***			
⚠	33015017	CRT-A36JAR40X(MW)	1
TUNER	34343425	TUNER,CATV ELECTRONIC	1
IFUNIT	343436C3	VIF UNIT (WG)	1
*** ICS ***			
IC301	37001034	IC UPC1382C	1
IC303	37001072	IC UPC1241H (SND OUT)	1
IC1651	37003014	IC UPC1364C2 (SECAM)	1
IC701	37003015	IC UPC1365C	1
⚠IC651	37005012	IC UPC78M05H (REG)	1
⚠IC601	37005058	IC STR4C090 (REG)	1
IC451	37006009	IC UPC1378H (V.OUT)	1
IC401	37009016	IC UPC1377C (HORI)	1
IC1007	37011022	IC TA78	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
IC1C05	37011039	IC LA791C (BAND SW)	1
IC2C1 IC302	37011041	IC TA7347P (VIDEO SW)	2
IC4001	37011077	IC UPC1473HA (AMP)	1
IC1006	37011093	IC TA76 (TR-ARRAY)	1
IC1004	37056018	IC PST518A	1
IC1001	37058139	MOS MN15245KNI (V/S)	1
IC1C03	37058141	MOS UPD4990AC (TIMER)	1
IC1C02	37058167	MOS CXK1006L (EAROM)	1
*** TRANSISTORS ***			
TR1001 TR1002 TR1003 TR1004 TR1006 TR1007 TR1008 TR1009 TR1010 TR1011 TR1013 TR1114 TR201 TR202 TR203 TR204 TR205 TR206	35007216	TR,2SC945-T P	26

SYMBOL			PARTS NO	DESCRIPTION	QTY
TR207	TR208	TR210			
TR301	TR505	TR907			
TR908	TR909				
TR651			35CE3211	TR,2SC2002-T K	1
TR1005	TR1113	TR751	350K3516	TR 2SA733/2SA733A-T P	3
TR501			35056311	TR,2SC2688 K	1
TR1012			35058011	TR 2SC2352 K	1
TR601			35058517	TR,2SC1573A G	1
⚠TR502			350682C0	TR,2SD1425	1
TR910			35081811	TR 2SC2901 K	1
TR904	TR905	TR906	350834C0	TR,2SC2408/2SC2408A	3
TR901	TR902	TR903	35084401	TR,2SC3063-RL	3
TR253	TR254	TR702	35160501	TR,AA1A4M-T	4
TR703			35160501	TR,AA1A4M-T	4
TR1651, TR1653		©	35AB0017	TR 2SA812-T2B(180°)M7	2
TR1652, TR1654		©	35CB0017	TR 2SC1623-T2B(180°)L7	4
TR1655, TR1656					

*** DIODES ***

D1001	D1006	D1007	360K1027	DIODE 1SS132	41
D1008	D1009	D1018			
D1019	D1020	D1021			
D1022	D1023	D1024			
D1080	D1121	D1122			
D1123	D1124	D1125			
D1128	D251	D301			
D351	D401	D501			
D502	D651	D701			
D702	D703	D901			
D902	D903	D904			
D905	D906	D907			
D908	D909	D910			
D911	D912				
ZD1002			360K3049	ZENER DIODE UPC574J-T	1
ZD1001			360K3077	DIODE RD5.1EB-T4	1
⚠ZD502			360K3098	DIODE RD12EE(3)-T4	1
ZD501			360K3100	DIODE RD5.1EE (2)-T4	1
⚠ZD2001			360K3121	DIODE RD6.8EB(3)-T4	1
ZD1005	ZD1006	ZD1007	360K3122	DIODE,ZENER RD5.6EB(1)-T4	4
ZD1008					
ZD1003			360K3139	DIODE RD5.6EE(2)-T4	1
D302	D303		36001027	DIODE 1SS132	2
ZD1004			36003663	DIODE RD10ESB (2)	1
⚠D601	⚠D602	⚠D603	361K7091	RECTIFIER,SI. RM11B	4

SYMBOL			PARTS NO	DESCRIPTION	QTY
⚠D604					
D402			361K7094	RECTIFIER,SI.SM-1A-02	1
D2001	D503	D504	361K7160	RECTIFIER,SI. TVR-06G G23	5
D505	D507				
D609			36107166	RECTIFIER,SI. RU-2	1
⚠D606	D608		36107168	RECTIFIER,SI.EH-1	2
⚠D607			36107170	RECTIFIER,SI. RH-2D	1
D605			36107171	RECTIFIER,SI.EU-1Z	1
D505			36107175	RECTIFIER,SI. RH1S	1
⚠D650			36108003	DIODE,BRIDGE RB-150	1
FD1002	FD1004	FD1007	36108025	DIODE ARRAY RD5.6EB(1)*4A	5
FD1009	FD1011				
FD1006			36108030	DIODE ARRAY DAN401	1
FD1005			36108031	DIODE ARRAY DAP401	1
FD901			36108065	DIODE ARRAY RD13EB(3)X4A	1
D1651		©	36CB0004	DI ISS222-T2B(180°)	1
D1126			36801163	DIODE,LIGHT-E PRG5241KST	1
PD4001			36803004	DIODE,PHOTO PH302B	1
⚠TH601			38112038	PTC THERMISTOR 902P44E	1

*** TRANSFORMERS ***

⚠T651	45015414	TRANS,POWER 40V 0.02A	1
⚠T601	46308404	TRANS,CONVERTER	1
T501	46399008	TRANS,H.DRIVE	1
⚠T502	47105296	F.B.T	1

*** VARIABLE RESISTORS ***

VR401			41011362	R,VARIABLE B10K-V	1
VR452			41061511	R,VARIABLE B4.7K	1
VR1653			41071211	R,VARIABLE B4.7K	1
VR1652	VR451		41071305	R,VARIABLE B470H	2
VR1651	VR501	VR751	41071311	R,VARIABLE B4.7K	5
VR752	VR754				
VR753			41071407	R,VARIABLE B1.0K	1
VR1001			41071414	R,VARIABLE B15K	1
VR702			41071417	R,VARIABLE B47K	1
VR904	VR905		41085002	R,VARIABLE B200H	2
VR901	VR902	VR903	41085007	R,VARIABLE B3K	3

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** RELAYS & SWITCHES ***			
⚠S601	65208007	SWITCH,SEE-SAW	1
S1012	65315203	SWITCH,PUSH BUTTON	1
S1101 S1102 S1103	65361015	SWITCH,PUSH BUTTON	10
S1104 S1105 S1106			
S1107 S1108 S1109			
S1110			
S4101	65361016	SWITCH,PUSH BUTTON	1
⚠RL601	65602042	RELAY GSR-1112P	1
S751	66099003	SWITCH,LEVER	1
*** COILS & FILTERS ***			
T4001	60299103	COIL,DET 5.3MH	1
T1654	60518004	COIL	1
T1653	60519001	COIL,FILTER	1
T1651 T1652	60519003	COIL	2
T751	60567003	COIL,DL MATCHING	1
⚠L504	60917051	COIL	1
L755	610E1713	COIL,FILTER 4.7UH	1
L754	610E1714	COIL,FILTER 5.6UH	1
L201 L752	610E1717	COIL,FILTER 10UHA,T (S)	2
L751 L753	610E1723	COIL,FILTER 33UHA,T (S)	2
L203	610E1724	COIL,FILTER 39UH	1
L202 L302 L503	610F7018	COIL,FILTER 12UH	4
L651			
L502 L603	610F7044	COIL,FILTER 5.6UH	2
L1001 L1002 L1003	610F7514	COIL,FILTER 5.6UH	6
L1004 L1005 L1008			
L701	61051711	FILTER COIL	1
L704	61051719	COIL,FILTER 15UH	1
L1651	61051724	COIL,FILTER 39UH	1
⚠L601 ⚠L602	61062026	COIL,LINE FILTER	2
L501	610E4055	COIL,FILTER 4700UH	1
CF301	61105012	COIL,SIF FILTER 5.5UH	1
CF301E	61105021	SIF FILTER SFT 5.5MA	1
CF201	61111004	CERAMIC TRAP 5.5MHZ	1
CF701	61111008	CERAMIC TRAP 4.43MHZ	1
CF1001	61111072	X,TAL CSA4.19MG	1
CF302	61112012	CERAMIC DISCRIMINATER	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
⚠	613152C1	COIL,DEGAUSSING	1
DL701	61511039	DL,0.5US	1
DL751	61511062	DELAY LINE	1
FB606 FB607	61605005	FERRITE BEADS 5*10*1.8	2
H-OUT	61605008	FERRITE BEADS 3.5*5*1.3	2
⚠FB604 ⚠FB605	61605016	FERRITE BEADS BF5C-5*7*2	2
	61605019	CORE,FERRITE	1
LC1001	61606030	FILTER	1
*** PWB ASSYS ***			
	93N55001	SECAM PWB ASSY	1
	93N55FC1	MAIN PWB ASSY	1
	93N55GC2	CRT PWB ASSY	1
	93N55P01	SUB PWB ASSY	1
*** ELECTRICAL PARTS & MISCELLANEOUS PARTS ***			
FC1003	39016026	C,CERAMIC 50V 100PF	1
FR1001 FR1002 FR1003	39030009	R,NETWORK 4*10K 5% 1/8W	4
FR1004			
FR1005	39030156	R,NETWORK 4*3.9K 5% 1/8W	1
FR1007	39030430	R,NETWORK 1K 5% 1/10W	1
FR1006	39030513	R,NETWORK 4X1.0K	1
⚠	48007324	DEFLECTION YOKE	1
⚠	49005024	CPC MAGNET	1
	62066017	ANTENNA,WHIP	2
	63010116	SPEAKER 90*50 8H 3W FER	1
	63561021	EARPHONE 16H PULG 3.5	1
X751	64003027	X TAL 4.43M(NDK)	1
X1001	64099021	X'TAL OSC 32.768KHZ(B)	1
⚠F601	66671005	FUSE2AT 250V SEMKO 20MM	1
⚠SG901 ⚠SG902 ⚠SG903	66706001	SPARK GAP 1.2KV	3
⚠	70032052	SG/CRT SOCKET	1
	70301516	RUBBER,FERRITE	2
	70301525	WEDGE 10	2
	70505023	JACK,EARPHONE	1
	70799026	IEC ANTENNA PLUG	1
⚠	70800051	LINE CORD	1
	71121962	CONVERTER (300-75)	1
FB601	71205037	HOLDER,FUSE	2

SYMBOL	PARTS NO	DESCRIPTION	QTY
*** APPEAPANCE PARTS ***			
	24FS5882	LID,CONTROL	1
	24541491	LUG	2
	24543121	COIL SPRING	1
*** KNOBS & PUSH BUTTONS ***			
	24GS4112	PUSH BUTTON (POWER)	1
	24GS4121	PUSH BUTTON	4
	24GS4132	PUSH BUTTON (6P)	1
	24GS4141	PUSH BUTTON	1
*** PRINTED & PACKING MATERIALS ***			
	24MS6C02	FILLER(T),CARTON	1
	24MS6C12	FILLER(B),CARTON	1
	24806961	BAG,POLYETHYLENE(270*370)	1
	78C57392	OWNER'S MANUAL FS-1530SG	1
*** RESISTORS ***			
JP ©	40AA1000	R,CHIP 0H 5% 1/8W	1
R1651 ©	40AA1141	R,CHIP 47H 5% 1/8W	1
R1654 ©	40AA1145	R,CHIP 68H 5% 1/8W	1
R1684 ©	40AA1149	R,CHIP 100H 5% 1/8W	1
R1660 R1661 ©	40AA1165	R,CHIP 470H 5% 1/8W	2
R1658 ©	40AA1167	R,CHIP 560H 5% 1/8W	1
R1659 ©	40AA1171	R,CHIP 820H 5% 1/8W	1
R1662 ©	40AA1181	R,CHIP 2.2K 5% 1/8W	1
R1686 R1687 ©	40AA1183	R,CHIP 2.7K 5% 1/8W	2
R1663 R1674 R1675 ©	40AA1185	R,CHIP 3.3K 5% 1/8W	4
R1676			
R1666 R1670 R1671 ©	40AA1187	R,CHIP 3.9K 5% 1/8W	4
R1677			
R1672 ©	40AA1189	R,CHIP 4.7K 5% 1/8W	1
R1679 ©	40AA1191	R,CHIP 5.6K 5% 1/8W	1
R1652 R1664 R1669 ©	40AA1193	R,CHIP 6.8K 5% 1/8W	4
R1673			
R1653 ©	40AA1195	R,CHIP 8.2K 5% 1/8W	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
R1680 ©	40AA1197	R,CHIP 10K 5% 1/8W	1
R1656 R1665 ©	40AA1199	R,CHIP 12K 5% 1/8W	2
R1682 ©	40AA1203	R,CHIP 18K 5% 1/8W	1
R1685 ©	40AA1207	R,CHIP 27K 5% 1/8W	1
R1657 ©	40AA1209	R,CHIP 33K 5% 1/8W	1
R1168 R1668 R1678 ©	40AA1213	R,CHIP 47K 5% 1/8W	4
R1681			
R1683 ©	40AA1215	R,CHIP 56K 5% 1/8W	1
R1667 ©	40AA1249	R,CHIP 1.5M 5% 1/8W	1
R321	401C6601	R,CARBON 1.0H 5% 1/4W	1
R453	401C6667	R,CARBON 560H 5% 1/4W	1
R525	401C6689	R,CARBON 4.7K 5% 1/4W	1
R455	401H56C9	R,CARBON 2.2H 5% 1/2W	1
R603	401H5625	R,CARBON 10H 5% 1/2W	1
⚠ R540	401H5661	R,CARBON 330H 5% 1/2W	1
R454	401H5667	R,CARBON 560H 5% 1/2W	1
R911 R912 R913	401H5673	R,CARBON 1.0K 5% 1/2W	3
R41C	401H5679	R,CARBON 1.8K 5% 1/2W	1
R1049 R1050	401H5695	R,CARBON 8.2K 5% 1/2W	2
R539	401H5727	R,CARBON 180K 5% 1/2W	1
R604	401H5745	R,CARBON 1.0M 5% 1/2W	1
R759	401K5613	R,CARBON 3.3H 5% 1/6W	1
R4002	401K5625	R,CARBON 10H 5% 1/6W	1
R917	401K5637	R,CARBON 33H 5% 1/6W	1
R229	401K5646	R,CARBON 75H 5% 1/6W	1
R209 R212 R221	401K5649	R,CARBON 100H 5% 1/6W	11
R315 R757 R758			
R904 R914 R915			
R916 R924			
R1152 R902 R905	401K5653	R,CARBON 150H 5% 1/6W	4
R907			
R409	401K5655	R,CARBON 180H 5% 1/6W	1
R207 R4003 R533	401K5657	R,CARBON 220H 5% 1/6W	4
R751			
R1153 R227 R304	401K5659	R,CARBON 270H 5% 1/6W	4
R319			
R201 R522 R524	401K5661	R,CARBON 330H 5% 1/6W	6
R721 R722 R723			
R208 R712 R920	401K5663	R,CARBON 390H 5% 1/6W	5
R921 R922			
R216 R305 R523	401K5665	R,CARBON 470H 5% 1/6W	3
R1068 R1069	401K5667	R,CARBON 560H 5% 1/6W	2
R901 R903 R906	401K5669	R,CARBON 680H 5% 1/6W	3
R1025 R302 R313	401K5671	R,CARBON 820H 5% 1/6W	3

SYMBOL			PARTS NO	DESCRIPTION	QTY
R1007	R1008	R1009	401K5673	R,CARBON 1.0K 5% 1/6W	34
R1010	R1011	R1012			
R1013	R1042	R1062			
R1063	R202	R205			
R215	R219	R220			
R225	R226	R231			
R233	R256	R306			
R314	R323	R4001			
R4005	R504	R513			
R541	R765	R767			
R768	R769	R918			
R919					
R708	R728		401K5675	R,CARBON 1.2K 5% 1/6W	2
R602	R764		401K5677	R,CARBON 1.5K 5% 1/6W	2
R206	R537	R610	401K5679	R,CARBON 1.8K 5% 1/6W	3
R1056	R204	R232	401K5681	R,CARBON 2.2K 5% 1/6W	6
R312	R729	R760			
R405			401K5683	R,CARBON 2.7K 5% 1/6W	1
R224	R309	R407	401K5685	R,CARBON 3.3K 5% 1/6W	5
R519	R766				
R303	R716	R718	401K5687	R,CARBON 3.9K 5% 1/6W	3
R1028	R1029	R210	401K5689	R,CARBON 4.7K 5% 1/6W	10
R214	R218	R222			
R517	R536	R609			
R763					
R1023	R1036	R521	401K5691	R,CARBON 5.6K 5% 1/6W	3
R1022	R1024	R1026	401K5693	R,CARBON 6.8K 5% 1/6W	6
R512	R516	R520			
R1040	R754		401K5695	R,CARBON 8.2K 5% 1/6W	2
R1001	R1002	R1003	401K5697	R,CARBON 10K 5% 1/6W	37
R1004	R1005	R1006			
R1015	R1034	R1035			
R1043	R1045	R1057			
R1060	R1064	R1066			
R1070	R1075	R1077			
R1154	R1155	R203			
R211	R213	R217			
R230	R308	R401			
R402	R403	R404			
R457	R515	R710			
R711B	R731	R925			
R926					
R505	R755	R756	401K5699	R,CARBON 12K 5% 1/6W	3
R1046	R1047	R1048	401K5701	R,CARBON 15K 5% 1/6W	9
R318	R451	R452			
R510	R714	R730			
R1020	R1061	R1067	401K5705	R,CARBON 22K 5% 1/6W	7
R223	R311	R316	401K5705	R,CARBON 22K 5% 1/6W	7

SYMBOL			PARTS NO	DESCRIPTION	QTY
R733					
R406	R761	R762	401K5707	R,CARBON 27K 5% 1/6W	3
R408	R508	R509	401K5709	R,CARBON 33K 5% 1/6W	3
R322			401K5711	R,CARBON 39K 5% 1/6W	1
R1044	R1074	R1076	401K5713	R,CARBON 47K 5% 1/6W	6
R608	R715	R720			
R310	R534	R535	401K5717	R,CARBON 68K 5% 1/6W	6
R713	R719	R727			
R511	R514		401K5719	R,CARBON 82K 5% 1/6W	2
R1041	R1065	R1071	401K5721	R,CARBON 100K 5% 1/6W	9
R1073	R1078	R1079			
R324	R4004	R717			
R1027			401K5725	R,CARBON 150K 5% 1/6W	1
R752			401K5729	R,CARBON 220K 5% 1/6W	1
R709	R753		401K5737	R,CARBON 470K 5% 1/6W	2
R734			40107173	R,CARBON 1.0K 5% 1/6W	1
R301			40136663	R,CARBON 390H 5% 1/4W	1
R399			40136675	R CARBON 1.2K 5% 1/4W	1
R323			40136691	R,CARBON 5.6K 5% 1/4W	1
⚠R651			401771C9	R,CARBON 2.2H 5% 1/4W	1
⚠R531			40177173	R,CARBON 1.0K 5% 1/4W	1
⚠R529			40178109	R,CARBON 2.2H 5% 1/2W	1
R601			40216004	R,WIRE 4.7H 10% 5W	1
R538			40371111	R,METAL 2.7H 5% 1W	1
R456			40371115	R,METAL 3.9H 5% 1W	1
R1051			40371201	R,METAL 15K 5% 1W	1
R605	R606		40371213	R,METAL 47K 5% 1W	2
R542			40371215	R,METAL 56K 5% 1W	1
R612			40372141	R,METAL 47H 5% 2W	1
R652			40372149	R,METAL 100H 5% 2W	1
R653			40372155	R,METAL 180H 5% 2W	1
R908	R909	R910	40372199	R,METAL 12K 5% 2W	3
R526			40373189	R,METAL 4.7K 5% 3W	1
R507			40373191	R,METAL 5.6K 5% 3W	1
⚠R527	⚠R528	⚠R530	40405109	R,METAL 2.2H 5% 1/4W	4
⚠R532					
R611			40499002	R,METAL 1.0H 5% 2W	1

*** CAPACITORS ***

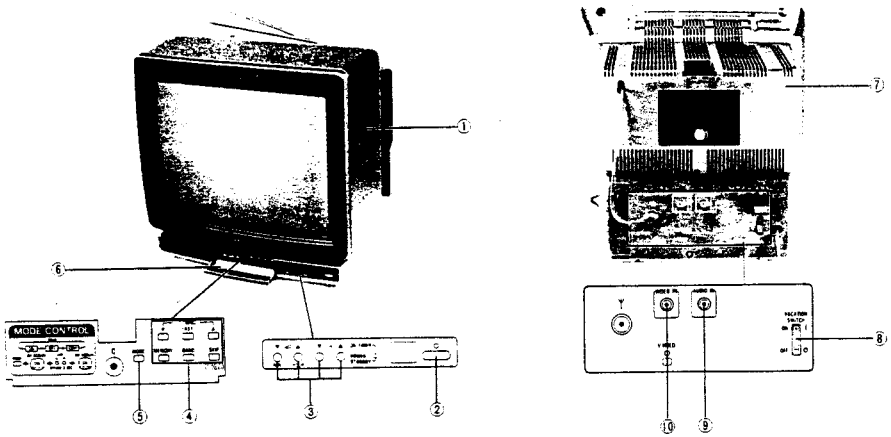
C1654	C1656	C1658©	42AA1121	C,CERAMIC 50V 0.01UF	11
C1659	C1661	C1666			
C1668	C1672	C1673			

SYMBOL	PARTS NO	DESCRIPTION	QTY
C1674 C1683			
C1684 ©	42CA1026	C,ELEC 50V 27UF	1
C1652 ©	42CA1028	C,CERAMIC 50V 33PF	1
C1660 ©	42CA1032	C,CERAMIC 50V 47PF	1
C1662 C1678 ©	42CA1036	C,CERAMIC 50V 68PF	2
C1651 C1663 C1677 ©	42CA1040	C,CERAMIC 50V 100PF	3
C1665 ©	42CA1044	C,CERAMIC 50V 150PF 5%	1
C1653 C1671 C1676 ©	42CA1048	C,CERAMIC 50V 220PF 5%	3
C1038	420E9519	C,CERAMIC 50V 3300PF	1
C456	420C9551	C,CERAMIC 500V 100PF	1
C514 C520	420C9560	C,CERAMIC 50CV 560PF	2
C517 C522	420C9563	C,CERAMIC 50CV 0.001UF	2
C523	420C9567	C,CERAMIC 500V 2200PF	1
C515	4203J575	C,CERAMIC 50CV 0.01UF	1
C617 C905	42034713	C,CERAMIC 2KV 0.001UF	2
⚠C610 ⚠C611 ⚠C612	42051113	C,CERAMIC 50CV 4700PF	3
⚠C622	42056004	C,CERAMIC 400V 1000PF	1
⚠C608 ⚠C609	42056C06	C,CERAMIC 4CCV 2200PF	2
C616	42C74759	C,CERAMIC 2KV 470PF	1
C618	4209JC58	C,CERAMIC 4CCV 0.01UF	1
C620	4209JC59	C,CERAMIC 2KV 560PF	1
C906 C907 C908	421C0207	C,CERAMIC 5CV 330PF	4
C912			
C901 C902	421C021C	C,CERAMIC 50V 560PF	2
C1034 C321 C323	421C0213	C,CERAMIC 50V 1000PF	7
C407 C508 C511			
C903			
C412 C455 C506	421C0221	C,CERAMIC 5CV 4700PF	3
C205 C301 C302	421CC225	C,CERAMIC 5CV 0.01UF	16
C409 C652 C707			
C752 C757 C759			
C760 C763 C764			
C766 C909 C910			
C911			
C4006	421D5C24	C,CERAMIC 25V 0.068UF	1
C1023	421J9C01	C,CERAMIC 50V 0.1UF	1
C1005 C1007 C1039	421J9C36	C,CERAMIC 25V 0.1UF	13
C305 C308 C319			
C4007 C521 C654			
C754 C755 C756			
C758			
C653	4219J002	C,CERAMIC 50V 0.1UF	1
C304	423A1041	C,CERAMIC 50V 68PF	1
C1017 C762	423A1045	C,CERAMIC 50V 100PF	2
C1011	423A1049	C,CERAMIC 50V 150PF	1

SYMBOL	PARTS NO	DESCRIPTION	QTY
C772	423A1C51	C,CERAMIC 50V 180PF	1
C1018	423A1C53	C,CERAMIC 50V 220PF	1
C512	423A1C57	C,CERAMIC 50V 330PF	1
C1010	423A2C05	C,CERAMIC 5CV 5PF	1
C1025 C1026	423A2C23	C,CERAMIC 5CV 12PF	2
C769	423A2C27	C,CERAMIC 5CV 18PF	1
C706	423A2C31	C,CERAMIC 50V 27PF	1
C751 C761 C767	423A2C37	C,CERAMIC 50V 47PF	4
C768			
C1008 C1009 C203	423A2C39	C,CERAMIC 5CV 56PF	3
C530	4231AC51	C,CERAMIC 5CV 180PF	1
C1041 C1042 C1043	4231AC55	C,CERAMIC 50V 270PF	4
C1044			
C771	4231BC76	C,CERAMIC 5CV 62PF	1
C4005	427F4C57	C,FILM 5CV 330PF	1
C309	427F4C65	C,FILM 50V 0.015UF	1
C405 C509	427F4C67	C,FILM 50V 0.022UF	2
C403 C404 C414	427F4C69	C,FILM 50V 0.033UF	4
C507			
C314 C401	427F4C71	C,FILM 50V 0.047UF	2
C406	427F4073	C,FILM 50V 0.068UF	1
C1020	427F4075	C,FILM 50V 0.1UF	1
C505	427J9058	C,FILM 100V 560PF	1
⚠C527	42703530	C,FILM 200V 0.27UF	1
C415	42703667	C,FILM 400V 0.022UF	1
C1019	4276D027	C,FILM 50V 0.15UF	1
C1006	4276D033	C,FILM 50V 0.47UF	1
C615	4276D071	C,FILM 50V 0.047UF	1
⚠C516	42808522	C,METAL FILM 1.6KV 7500PF	1
C408	4282CC25	C,METAL FILM 50V 1UF	1
⚠C601 ⚠C605	42824225	C,METAL FILM 25CV 0.1UF	2
C402	430A41C1	C,ELEC 50V 0.22UF	1
C1021 C1664	430A41C2	C,ELEC 50V 0.33UF	2
C504	430A4105	C,ELEC 50V 1UF	1
C1669 C213 C51C	430A4107	C,ELEC 50V 2.2UF	3
C1037 C1655	430A9025	C,ELEC 16V 10UF	2
C1657 C1682	430A9028	C,ELEC 16V 47UF	2
C1004 C1030 C202	430B6025	C,ELEC 16V 10UF	12
C206 C210 C212			
C303 C310 C312			
C322 C705 C913			
C306	430B6C27	C,ELEC 16V 33UF	1
C1031 C201 C316	430B6C28	C,ELEC 16V 47UF	5
C317 C655			
C204 C208 C209	430B6C29	C,ELEC 16V 100UF	7

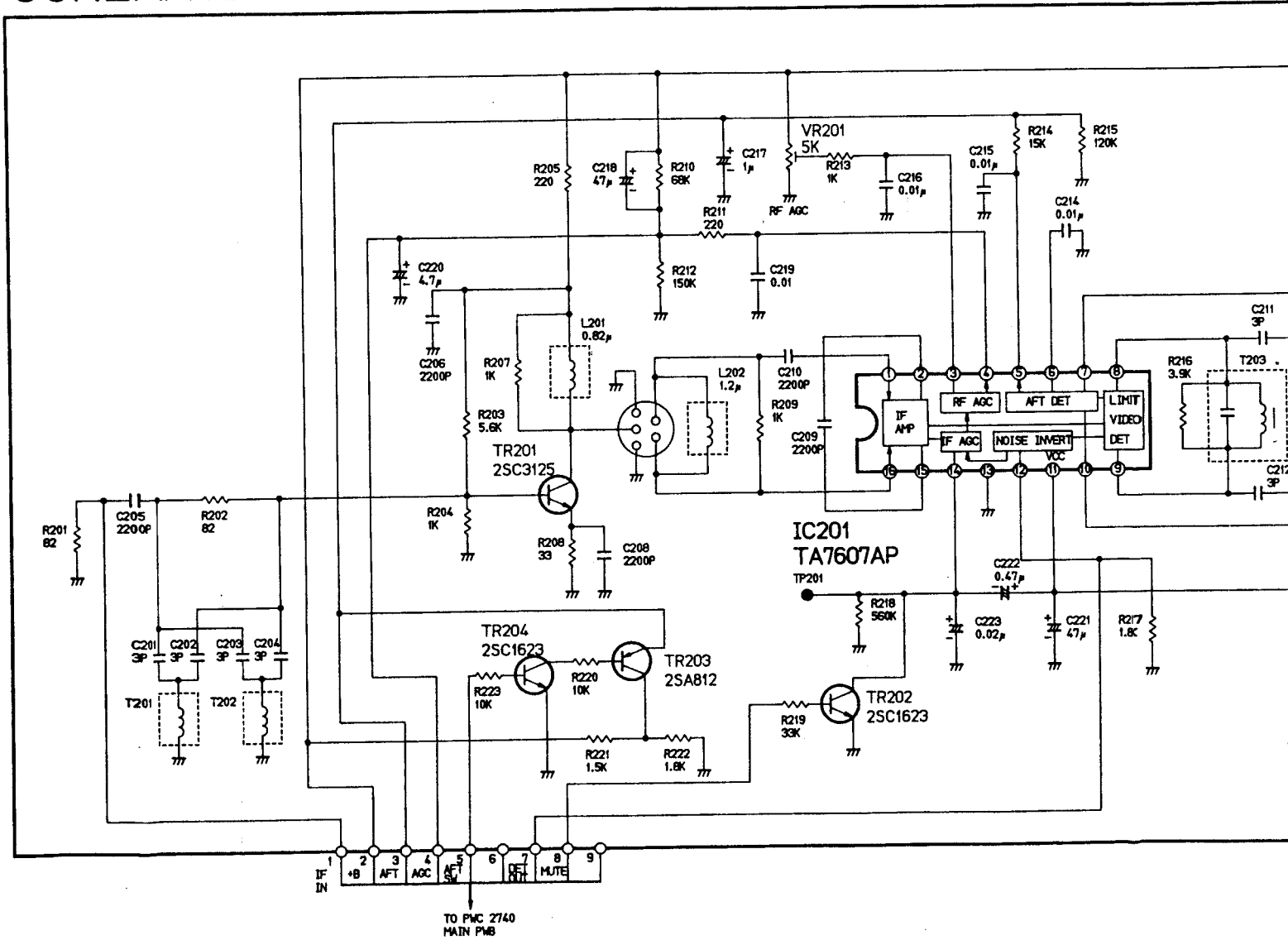
SYMBOL			PARTS NO	DESCRIPTION	QTY
C253	C311	C318			
C502					
C315			430B6C30	C,ELEC 16V 220UF	1
C410	C712		430B6C32	C,ELEC 16V 470UF	2
C1003	C1027	C1028	430B6037	C,ELEC 25V 4.7UF	4
C1029					
C528			430B6C41	C,ELEC 25V 47UF	1
C524			430B6C54	C,ELEC 35V 100UF	1
C1013	C1014	C1016	430B6C60	C,ELEC 50V 0.47UF	3
C753			430B6C61	C,ELEC 50V 1UF	1
C313	C709	C710	430B6C62	C,ELEC 50V 2.2UF	3
C1015	C503		430B6C63	C,ELEC 50V 3.3UF	2
C2001	C708	C711	430B6C64	C,ELEC 50V 4.7UF	3
C1022			430B6068	C,ELEC 50V 47UF	1
C529			430K5116	C,ELEC 16V 1UF	1
C619			4300E116	C,ELEC 16V 1UF	1
C904			4300E124	C,ELEC 25V 10UF	1
C214			43019064	C,ELEC 50V 4.7UF	1
C1036			4302FC09	C,ELEC 6.3V 3300UF	1
C713			4302FC33	C,ELEC 16V 1000UF	1
C307			4302F034	C,ELEC 16V 2200UF	1
C525	C526		43C2FC35	C,ELEC 16V 3300UF	2
C457			4302F045	C,ELEC 25V 470UF	1
C320			4302F048	C,ELEC 25V 3300UF	1
C453			4302F054	C,ELEC 35V 100UF	1
C651			4302F056	C,ELEC 35V 330UF	1
C454			4302F059	C,ELEC 35V 2200UF	1
C4002			4302HC27	C,ELEC 6.3V 100UF	1
C1012	C4001	C4004	4302H043	C,ELEC 16V 10UF	3
C4003			4302H081	C,ELEC 50V 4.7UF	1
C518	C614		4309J040	C,ELEC 160V 10UF	2
C621			4309J064	C,ELEC 160V 100UF	1
C519			4309J139	C,ELEC 160V 3.3UF	1
C1024			43099063	C,ELEC 5V 47000UF	1
±C613			43104071	C,ELEC 400V 100UF	1
C211			433A3026	C,ELEC 16V 100UF	1
C765			433A3043	C,ELEC 35V 4.7UF	1
C513			433A3055	C,ELEC 50V 1UF	1
C1670	C1675	C413	433A3056	C,ELEC 50V 2.2UF	3
C451			435A5070	C,TANTALUM 35V 0.68UF	1
C452			43515063	C,TANTALUM 25V 6.8UF	1
C1667			43515067	C,TANTALUM 35V 0.22UF	1
C1679	C1680	C1681	43515069	C,TANTALUM 35V 0.47UF	3

APPEARANCE PARTS

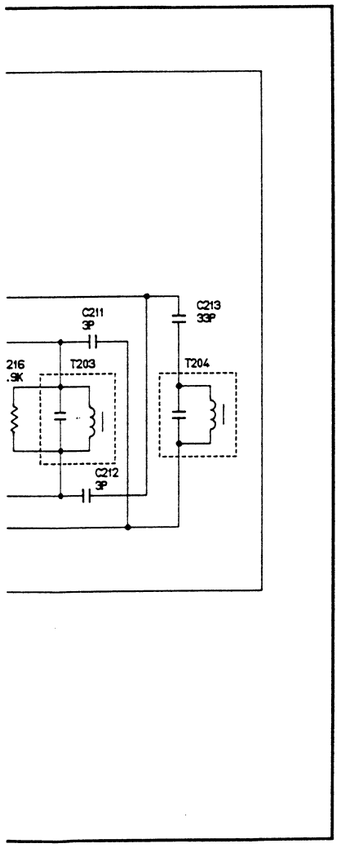


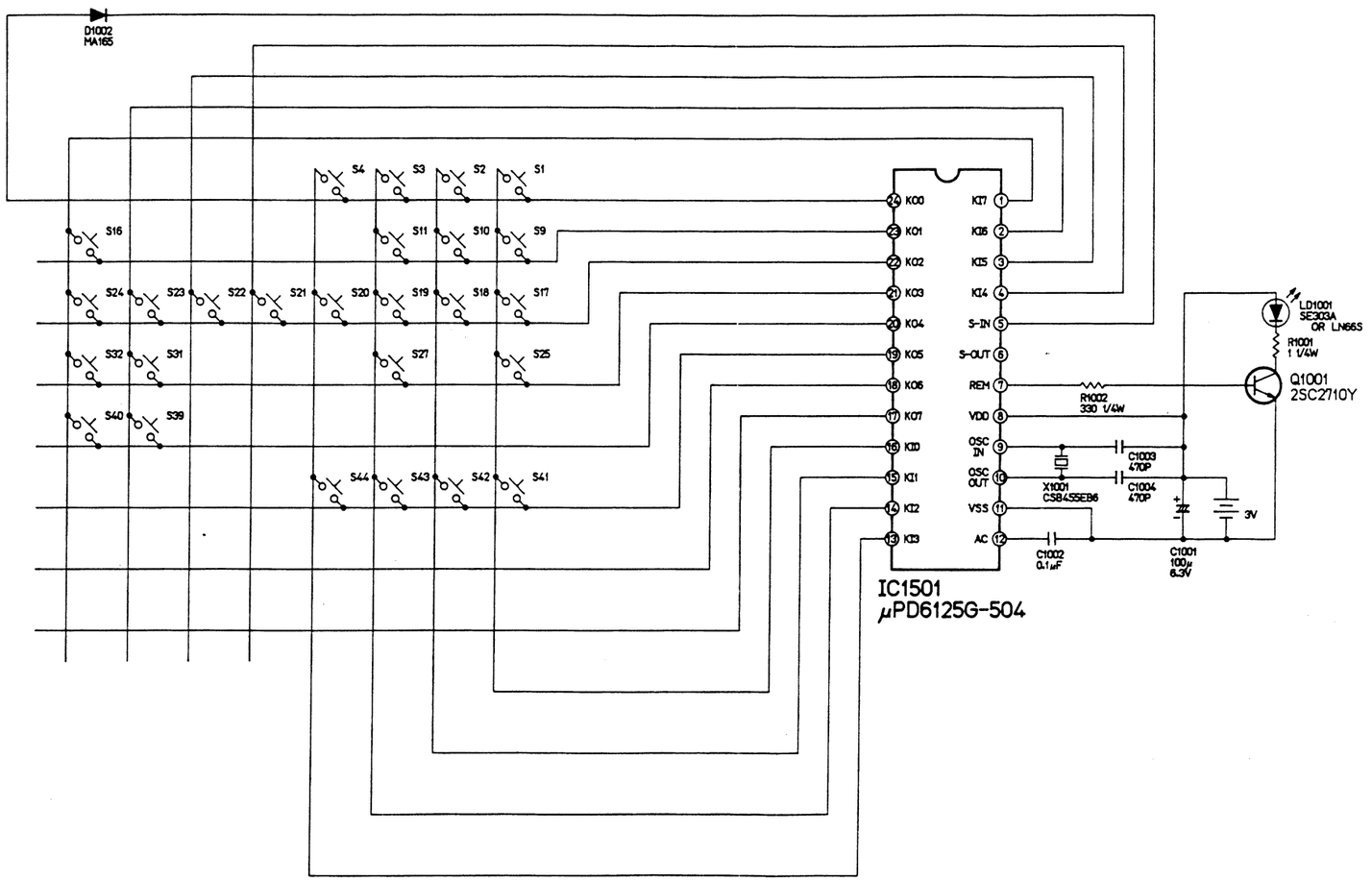
	PARTS NO	DESCRIPTION	QTY
①	24DS 6194	CABINET FRONT (MB)	1
①	24DS7911	CABINET FRONT (W)	1
②	24GS4112	PUSH BUTTON (POWER)	1
③	24GS4121	PUSH BUTTON	4
④	24GS4132	PUSH BUTTON (6P)	1
⑤	24GS4141	PUSH BUTTON	1
⑥	24FS5882	LID, CONTROL	1
⑦	24DS6202	CABINET BACK (MB)	1
⑦	24DS7921	CABINET BACK (W)	1
⑧	65208007	SWITCH, SEE-SAW	1
⑨	70051121	PIN JACK	1
⑩	70051122	PIN JACK	1

VIF UNIT (WG)
SCHEMATIC DIAGRAM



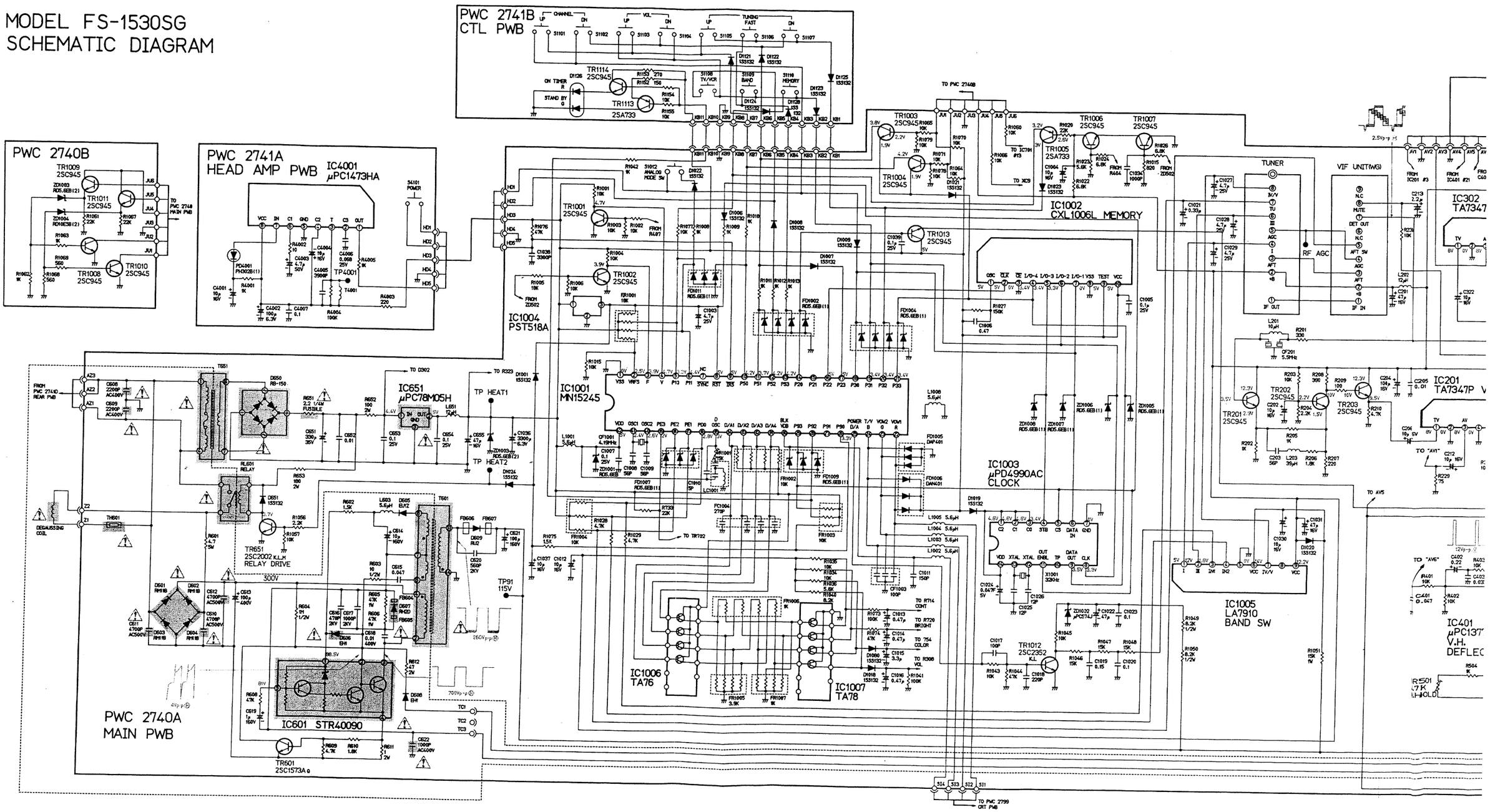
REMOTE CONTROL (RD-305E/RD-307E)
SCHEMATIC DIAGRAM



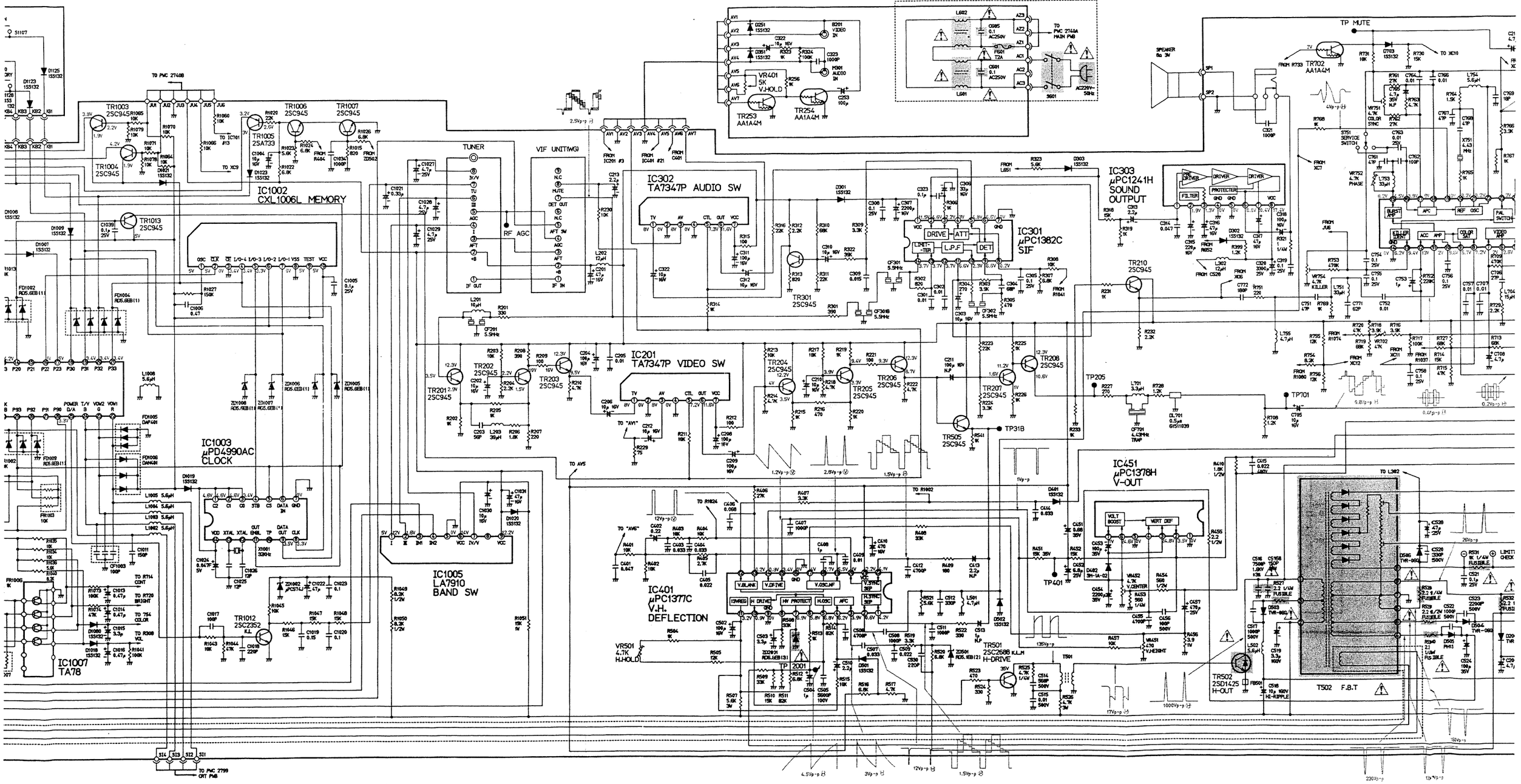


KEY SW	DATE		COMMAND
S1	0	0	CH +
S2	0	1	CH −
S3	0	2	VOL +
S4	0	3	VOL −
S5	0	4	
S6	0	5	
S7	0	6	
S8	0	7	
S9	0	8	POWER
S10	0	9	MUTE
S11	0	A	TV/AV
S16	1	F	STATUS
S17	1	0	1
S18	1	1	2
S19	1	2	3
S20	1	3	4
S21	1	4	5
S22	1	5	6
S23	1	6	7
S24	1	7	8
S25	1	8	9
S26	1	9	
S27	1	A	0
S28	1	B	
S29	1	C	
S30	1	D	
S31	1	E	OFF TIMER
S32	1	F	ON TIMER
S39	4	6	CONT +
S40	4	7	CONT −
S41	4	8	COL +
S42	4	9	COL −
S43	4	A	BRI +
S44	4	B	BRI −

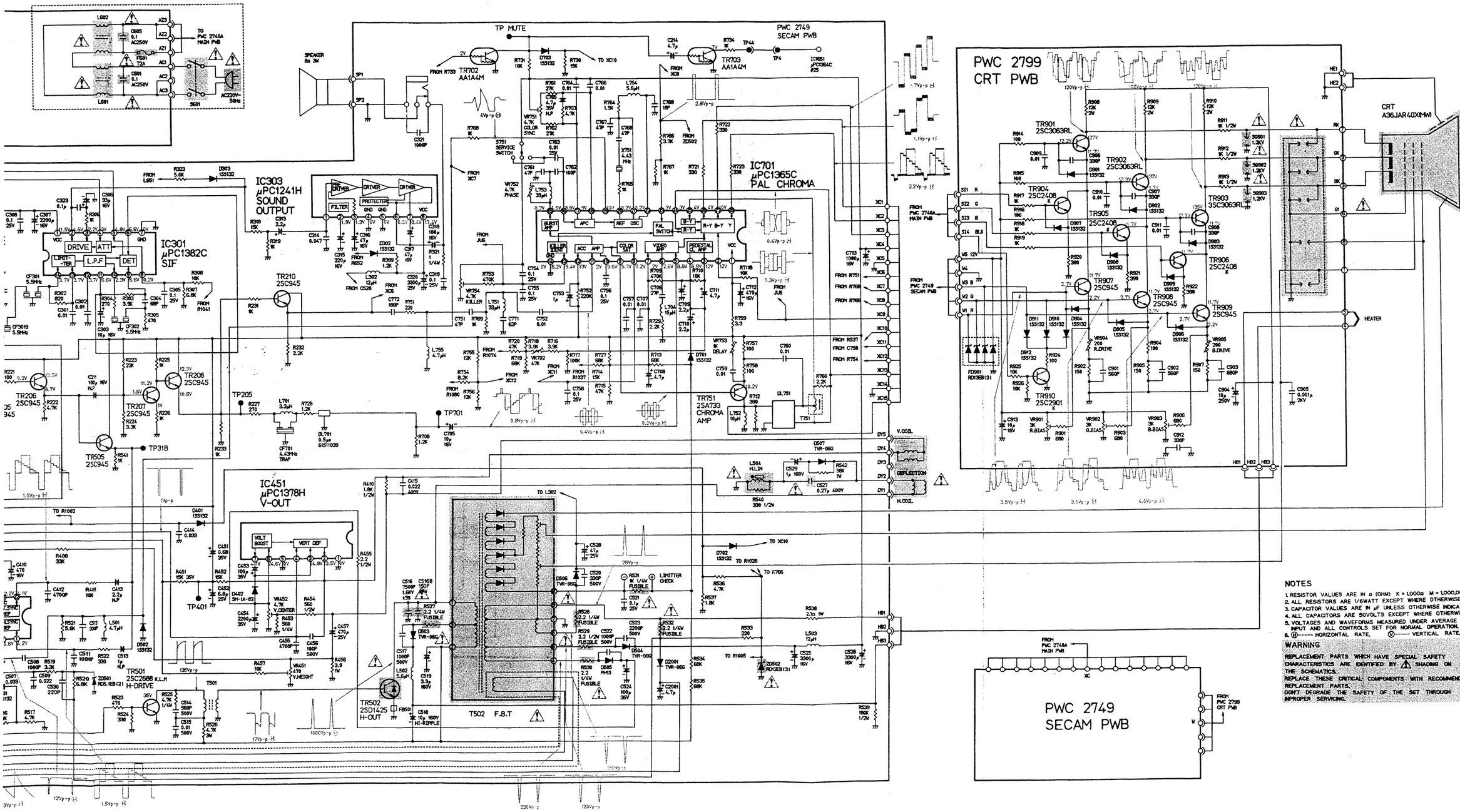
MODEL FS-1530SG
SCHEMATIC DIAGRAM



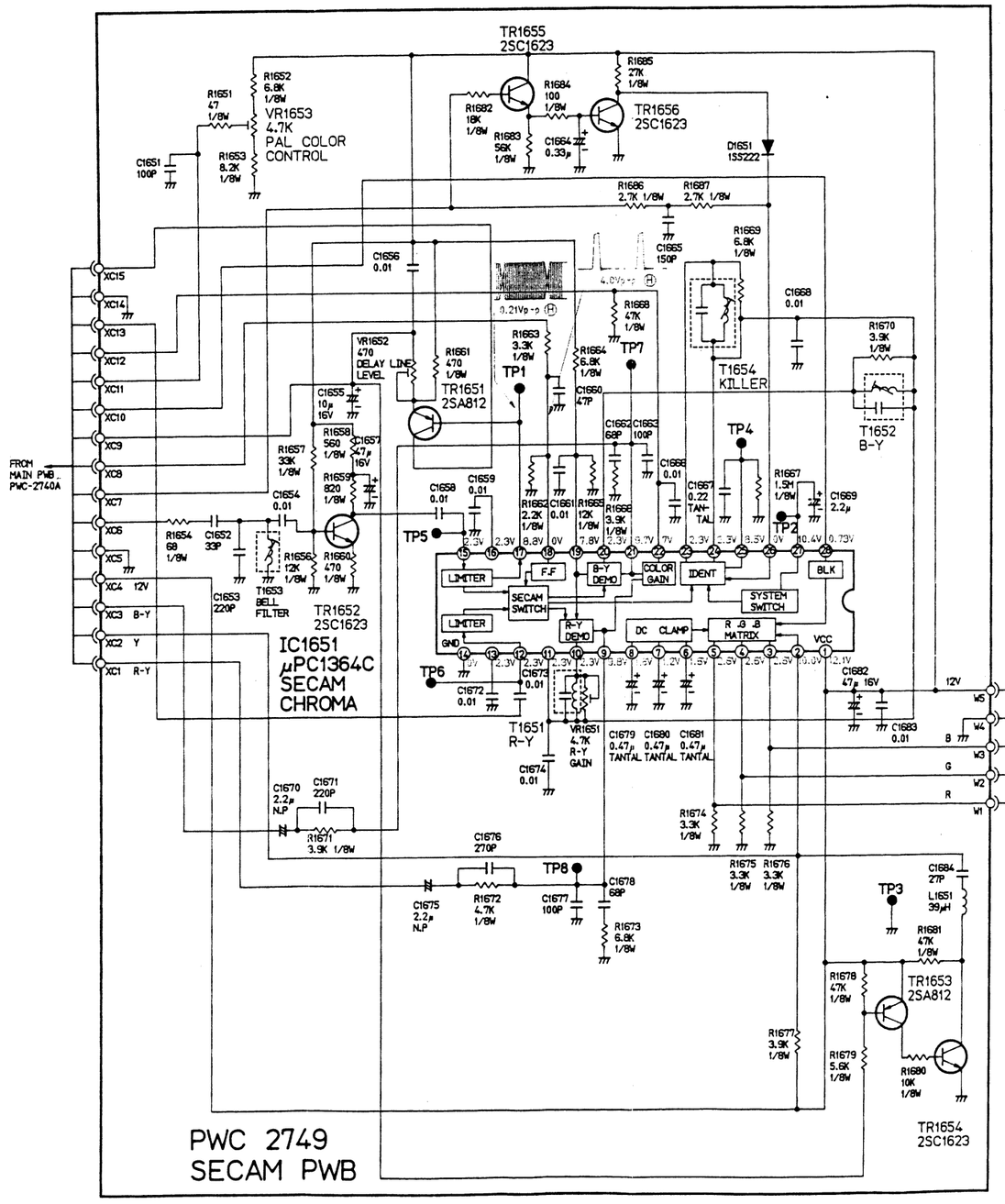
THIS SCHEMATIC DIAGRAM IS FUNDAMENTAL AND SUBJECT TO CHANGE.


IC1002
CXL1006L MEMORY
IC1003
μPD4990AC
CLOCK
IC1005
LA7910
BAND SW
IC1007
TA78
IC302
TA7347P AUDIO SW
IC201
TA7347P VIDEO SW
IC401
μPC1377C
V.H.
DEFLECTION
IC303
μPC1241H
SOUND
OUTPUT
IC301
μPC1382C
SIF
IC451
μPC1378H
V-OUT
TUNER
VIF UNIT(WG)
RF AGC
TR1003 2SC945
TR1004 2SC945
TR1005 2SA733
TR1006 2SC945
TR1007 2SC945
TR1013 2SC945
TR1012 2SC2352
TR253 AA1A4M
TR254 AA1A4M
TR301 2SC945
TR202 2SC945
TR201 2SC945
TR203 2SC945
TR204 2SC945
TR205 2SC945
TR206 2SC945
TR207 2SC945
TR208 2SC945
TR505 2SC945
TR210 2SC945
TR501 2SC2688 K,L,M
H-DRIVE
TR502 2SD1425
H-OUT
TR702 AA1A4M
VR401 5K V.HOLD
VR501 4.7K H.HOLD
TP MUTE
TP205
TP31B
TP401
TP 2001
T501
T502 F.B.T
TO PWC 2740B
TO PWC 2740A MAIN PWB
TO PWC 2799 CRT PWB
SPEAKER 8Ω 3W
AC220V~ 50Hz
DRIVER
PROTECTION
FILTER
REF OSC
APC
PAL SWITCH
KILLER DET
ACC APP
COLOR SAT
VIDEO APP
VOLT BOOST
VERT DEF
DRIVE
ATT
LIMIT-TER
L.P.F
DET
PIN DRIVER
TO R714 CONT
TO R720 BRIGHT
TO J54 COLOR
TO R308 VOL

RUN NO.1


PWC 2749
SECAM PWB
TP MUTE
IC303
μPC1241H
SOUND
OUTPUT
IC301
μPC1382C
SIF
IC701
μPC1365C
PAL CHROMA
IC451
μPC1378H
V-OUT
PWC 2799
CRT PWB
CRT
A36JAR40X(MW)
TR751
2SA733
CHROMA
AMP
TR501
2SC2688 K,L,M
H-DRIVE
TR502
2SD1425
H-OUT
T502 F.B.T
PWC 2749
SECAM PWB
NOTES
1. RESISTOR VALUES ARE IN Ω (OHM) K = 1000Ω M = 1000,000Ω
2. ALL RESISTORS ARE 1/6WATT EXCEPT WHERE OTHERWISE INDICATED.
3. CAPACITOR VALUES ARE IN μF UNLESS OTHERWISE INDICATED. P = PF
4. ALL CAPACITORS ARE 50VOLTS EXCEPT WHERE OTHERWISE INDICATED.
5. VOLTAGES AND WAVEFORMS MEASURED UNDER AVERAGE COLOR SIGNAL INPUT AND ALL CONTROLS SET FOR NORMAL OPERATION.
6. (H)----- HORIZONTAL RATE. (V)----- VERTICAL RATE.
WARNING
REPLACEMENT PARTS WHICH HAVE SPECIAL SAFETY CHARACTERISTICS ARE IDENTIFIED BY ⚠ SHADING ON THE SCHEMATICS.
REPLACE THESE CRITICAL COMPONENTS WITH RECOMMENDED REPLACEMENT PARTS.
DON'T DEGRADE THE SAFETY OF THE SET THROUGH INPROPER SERVICING.

SECAM PWB
SCHEMATIC DIAGRAM



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